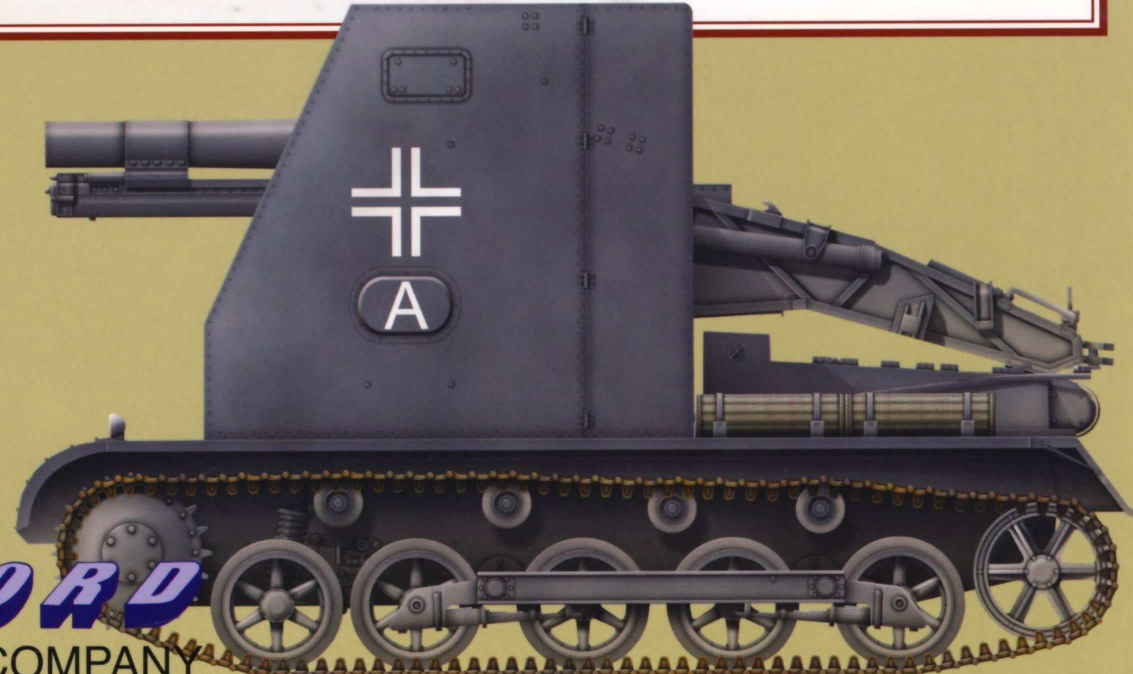
ARMOR AT WAR SERIES

7064

Early Panzer Victories

Frank V. De Sisto



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Dedication

The author wishes to dedicate this book to his friend and mentor, Mr. Ken Jones. Ken began his career promoting the hobby of scale modeling in the 1970s as the author and illustrator of several books dealing with AFVs and uniforms of the Second World War. He went on to become the Editor of Military Modelling magazine, a post he holds more than 30 years later. Ken has been a vocal proponent of the hobby of scale modeling and has nurtured some of the most talented modelers and prolific authors in the business. The author humbly includes himself on the "lower tier" of this admirable group, and is proud to have hosted Ken and his lovely bride Sandra at his home.

Ken is now retiring to spend more time with Sandra and their family. The author wishes them Godspeed and reminds them that there is always a spare bed and a home-cooked meal to be had in Brooklyn, New York, USA.

Introduction

The photographs seen within the pages of this book represent German Panzer, other armored fighting vehicles and support types as seen in service from the immediate pre-war era through the end of 1942. They show the main types in service during the early campaigns that brought Germany unprecedented territorial gain and brought the world the term, "Blitzkrieg", or lightning war. Although a large proportion of these combat vehicles were obsolescent by the time they saw their first action, their novel (for the time) tactical employment allowed them to attain an operational effectiveness never before seen in 20th-century warfare.

The lessons of the Great War were absorbed most deeply by the vanquished German armed forces. Massed use of machine-guns, rapid-fire breech-loading artillery and fortified trench lines miles in depth and hundreds of miles long, fronted by almost infinite tangles of barbed wire, caused huge casualties to the attacker. The use of poison gas failed to break the stalemate in the west and tactical airpower, although increasingly effective, was in its infancy. In an attempt to restore mobility, wheeled, and later tracked, armored combat vehicles were fielded. Thus the "tank" was born.

As is by now widely appreciated by students of the era, Germany, a nation that built only a few dozen Panzer (literally, "armor") during the war, began the serious study of ways to adapt combined-arms, mechanized warfare to the battlefield. The doctrine that emerged called for rapid concentration of mobile, armored units (supported by the traditional arms, as well as airpower), against the enemy at a decisive point in order to force a tactical breakthrough. Once this breakthrough had taken place, a breakout would follow in order to disrupt the enemy's rear at an operational level. In an ideal situation, there were hopes that a strategic victory could ensue.

After much trial, what has been optimistically called a "dress rehearsal" (the Spanish Civil War) and the rapid occupation of Austria and Czechoslovakia, Germany's Führer, Adolf Hitler, unleashed his legions against his nation's traditional enemy in the east, Poland.

Fall Weiss, Poland, September 1-October 6, 1939

With the end of the Great War, Poland was re-constituted as a sovereign nation after more than a century of occupation by Czarist Russia, the Austro-Hungarian Empire and Imperial Germany. This left a substantial ethnic German minority within the new Polish Republic, divided East Prussia from Germany proper and created the Baltic Sea port of Danzig (Gdansk), which was neither completely German nor completely Polish. All these became major sticking points and all were eventually used by Hitler's Germany as a reason for war. Additionally, although Nazi Germany was virulently (and very publicly) anti-Communist, in the summer of 1939 it completed a non-aggression pact with Josef Stalin's Soviet Union. Within this agreement was a secret protocol which called for the destruction of the Polish nation and its division between the Soviets and the Nazis.

After much posturing and a massive military build-up, Germany staged a phony Polish "incursion" and within hours of it, crossed the border on September 1, 1939, igniting one of history's most devastating wars. Seventeen days later, according to his prior agreement with Hitler, Stalin sent the Red Army across the eastern borders of an already reeling Poland, sealing her fate. Place-names such as Katyn and Auschwitz were added to the lexicon of humanity's self-inflicted horrors.

Germany's Panzertruppen (armored troops) were the core of the campaign. Heeresgruppe Nord (army group north) sent I Armee-Korps, consisting of Panzer-Division Kempf and I/Panzer-Regiment 10, and XIX Armee-Korps, consisting of 3. and 10.Panzer-Divisionen, south into Poland from East Prussia. Simultaneously, Heeresgruppe Süd (army group south) deployed from Germany proper with I, VIII, XV, XIX and XVI Armee-Korps crossing Poland's western borders and XVIII Armee-Korps crossing from Czechoslovakia in the south. The various Armee-Korps within Heeresgruppe Süd contained the following armored units: I Armee-Korps: Panzer-Division Kempf and I Abteilung, Panzer-Regiment 10. XIX Armee-Korps: 3. and 10.Panzer-Divisionen. VIII Armee-Korps: 5.Panzer-Division. XIII Armee-Korps: I Abteilung, Panzer-Regiment 23. XIV Armee-Korps: 1.leichte-Division. XV Armee-Korps: 2. and 3.leichter-Divisionen. XVI Armee-Korps: 1. and 4.Panzer-Divisionen. XVIII Armee-Korps: 2.Panzer-Division and 4.leichte-Division.

The divisions were further broken down into their various components as follows.

- 1.Panzer-Division: 1.Panzer-Brigade with Panzer-Regiment 1 and 2, each of two Panzer-Abteilungen.
- 2.Panzer-Division: 2.Panzer-Brigade with Panzer-Regiment 3 and 4, each of two Panzer-Abteilungen.
- 3.Panzer-Division: 3.Panzer-Brigade with Panzer-Regiment 5 and 6, each of two Panzer-Abteilungen, plus the Panzer-Lehr-Abteilung.
- 4.Panzer-Division: 5.Panzer-Brigade with Panzer-Regiment 35 and 36, each of two Panzer-Abteilungen.
- 5.Panzer-Division: 8.Panzer-Brigade with Panzer-Regiment 15 and 31, each of two Panzer-Abteilungen.
- 10.Panzer-Division: Panzer-Regiment 8, with two Panzer-Abteilungen.
- Panzer-Division Kempf: Panzer-Regiment 7, with two Panzer-Abteilungen.
- 1.leichte-Division: 6.Panzer-Brigade, containing Panzer-Regiment-11 with two Panzer-Abteilungen, and Panzer-Abteilung 65.
- 2.leichte-Division: Panzer-Abteilung 66.
- 3.leichte-Division: Panzer-Abteilung 67.
- 4.leichte-Division: Panzer-Abteilung 33.

In addition the Heeres-Truppen reserves held Panzer-Regiment 25, with two Panzer-Abteilungen (one from Panzer-Regiment 23), and Panzer-Regiment 10 with one Panzer-Abteilung.

Operation Weserübung, Scandinavia, April 9-June 8, 1940

Since it was physically impossible for Poland's allies, France and Great Britain to provide any meaningful material aid to Poland, they settled down to await events; the "Blitzkrieg" evolved into the so-called "Sitzkrieg" or sitting war. Minor actions occurred at sea and in the air; France occupied a small and insignificant piece of German real estate. Finally, Germany unleashed the next phase of her plan for the unification of Europe under one banner.

To secure his northern flank, gain un-restricted access from the German ports and the Baltic Sea to the North Atlantic, and secure Swedish raw materials, Hitler next set his sights on Denmark and Norway. In one of Germany's first inter-service "joint" operations, the Kreigsmarine (navy), Luftwaffe (air force) and Heer (army) joined forces to conduct overland operations, sea-borne assaults and vertical envelopment by airborne troops. Among the units deployed was a small formation named Panzer-Abteilung z.b.V.40. By 25 April, 1940, it contained three Panzer-Kompanien with a total of 29 Pz.Kpfw.Is, 18 Pz.Kpfw.IIs and four kl.Bef.Pz.Is. Also deployed in-theater was one

Panzer-Kompanie equipped with three of the multi-turreted Neubaufahrzeug Panzerkampfwagen IV.

Fall Gelb, Western Europe, May 10-June 5, 1940

Great Britain and France committed relatively substantial forces to the battles in Scandinavia, while the Poles also played a role. The Norwegians also played a protracted part in the defense of their homeland, while the Danes capitulated quite speedily on the first day of Hitler's onslaught. In particular, the German Kriegsmarine's smaller naval units suffered substantial losses. However, the outcome was never seriously in doubt. Fresh from these successes, Hitler next turned upon his neighbors to the west, chiefly France.

Bitter over the loss of the Great War and the denigrating terms of the Treaty of Versailles, Hitler looked to the conquest of France as part vengeance and part expansion of the Reich. For their part, France and to a lesser extent, Great Britain had suffered enormous casualties between 1914 and 1918. Although the individual French soldiers fought bravely, their nation's willingness to suffer further only 22 years after the Great War's end was seriously undermined. In addition, the French were still in the process of re-arming with modern systems; their tanks, seemingly superior to Germany's, had several serious design flaws. At enormous expense, France built and manned the Maginot Line, a series of fixed fortifications. French doctrine was out-dated and shackled by a command system that simply could not react quickly enough to Germany's tactical and operational flexibility.

Neutral Belgium and Holland hoped to avoid the war at all costs. On the other hand, Great Britain, now led by the inimitable Winston Churchill, deployed a substantial proportion of their extant armored forces to France, along with units of the Royal Air Force. They too had doctrinal and command systems that failed in the face of Germany's Blitzkrieg.

Acting on lessons learned in Poland, Germany implemented a substantial upgrading of the Panzertruppen. The leichter-Divisionen were disbanded and used to form the 6., 7. and 8.Panzer-Divisionen. Despite what Dr. Göbbel's Propaganda Ministry proclaimed, the campaign in Poland had been no walk in the park. Substantial Panzer losses were suffered due to the actions of Polish anti-tank guns. Early German Panzer were armored to withstand the effects of armor-piercing machine-gun ammunition and artillery shell fragments, so programs were initiated to up-armor them, with the Pz.Kpfw.II being so-modified in substantial numbers. Continued shortfalls in the production of the Pz.Kpfw.III led to the equipping of three Panzer-Divisionen with Czech-designed Panzer.

When, on May 10, 1940, the storm broke upon the west, the following armored units were involved. Heeres-Gruppe A deployed XV Panzer-Korps consisting of 5. and 7.Panzer-Divisionen. Also attached was Panzer-Gruppe von Kliest, which fielded XIX Panzer-Korps with 1., 2. and 10.Panzer-Divisionen, and XLI Panzer-Korps with 6. and 8.Panzer-Divisionen. Heeres-Gruppe B deployed the XVI Panzer-Korps with 3. and 4.Panzer-Divisionen, as well as XXIV Armee-Korps with 9.Panzer-Division. The panzer-Divisionen were further organized as follows.

- 1.Panzer-Division, 1.Panzer-Brigade, Panzer-Regiment 1 and 2, each of two Panzer-Abteilungen.
- 2.Panzer-Division, 2.Panzer-Brigade, Panzer-Regiment 3 and 4, each of two Panzer-Abteilungen.
- 3.Panzer-Division, 3.Panzer-Brigade, Panzer-Regiment 5 and 6, each of two Panzer-Abteilungen, plus Panzer-Lehr-Abteilung.
- 4.Panzer-Division, 5.Panzer-Brigade, Panzer-Regiment 35 and 36, each of two Panzer-Abteilungen.
- 5.Panzer-Division, 8.Panzer-Brigade, Panzer-Regiment 15 and 31, each of two Panzer-Abteilungen.
- 6.Panzer-Division, Panzer-Regiment 11, of two Panzer-Abteilungen and Panzer-Abteilung 65.
- 7.Panzer-Division, Panzer-Regiment 25, of two Panzer-Abteilungen and Panzer-Abteilung 66.
- 8.Panzer-Division, Panzer-Regiment 10, of two Panzer-Abteilungen and Panzer-Abteilung 67.
- 9.Panzer-Division, Panzer-Regiment 33, of two Panzer-Abteilungen.
- 10.Panzer-Division, 4.Panzer-Brigade, Panzer-Regiment 7 and 8, each of two Panzer-Abteilungen.

After their initial gains, the German leadership became anxious that Allied counter-attacks would cut-off and annihilate their armored spearheads. In addition, and in typical fashion, Hitler's opportunistic crony, Hermann Göring wanted his Luftwaffe to be given a chance to destroy bottled-up Allied units on the beaches of Dunkirk. Thus, a pause was allowed. In the event, although the British lost nearly every bit of equipment they brought to France, 337,000 troops (almost one-third of them Frenchmen) escaped across the English Channel to fight again.

Fall Rot, France, June 5-22, 1940

This left France alone and on June 5, 1940, Fall Rot, the final German offensive began. By June 14, Paris had been overrun by the Germans. On the 22nd of the month, when the Armistice was signed, German forces held a line that ran from Bordeux to the Swiss border. Thus began four years of resistance against, and collaboration with, the German masters of Western Europe by the occupied nations of France, the Netherlands, Belgium and Luxembourg.

German armored units were re-organized and re-oriented for Fall Rot as follows. Heeres-Gruppe A, contained Panzer-Gruppe Guderian. This unit consisted of XXXIX Panzer-Korps with 1. and 2.Panzer-Divisionen, as well as XLI Panzer-Korps with 6. and 8. Panzer-Divisionen. Heeres-Gruppe B contained XV Panzer-Korps with 5. and 7.Panzer-Divisionen, as well as Panzer-Gruppe von Kleist, fielding XIV Armee-Korps with 9. and 10.Panzer-Divisionen, plus XVI Panzer-Korps with 3. and 4.Panzer-Divisionen.

The Balkans: Operation 25 (Yugoslavia) and Operation Marita (Greece) April 6-30, 1941

Hitler's "junior partner" in his scheme for European domination was Italy's Fascist dictator, Benito Mussolini. Mussolini had grand dreams of reviving the glory of the Roman Empire. He envisioned the Mediterranean Sea as an Italian "lake", which his Fascist government would dominate by controlling the surrounding countries in North Africa, the Middle East and the Balkans. Although Italy was not prepared to fight a modern mechanized war, this did not deter Mussolini from invading Albania and then, on October 28, 1940, Greece. The Greeks stubbornly resisted and Italian forces were stopped cold.

Additionally, Hitler was preparing for his Armageddon, a titanic struggle between National Socialist Germany and Stalin's Communist Soviet Union. To secure his southern flank, Hitler convinced several nations in the Balkans, including Hungary, Romania and Bulgaria, to join the Axis Powers; however, Yugoslavia balked. Thus, the stage was set for an invasion of the latter country, which began on April 6, 1941. In addition, the thought of Allied aircraft being within range of the Romanian oil fields, which were the life-blood of a mechanized army, and a need to preserve the prestige of Mussolini's floundering

Legions, forced Hitler's hand. Therefore, Greece was added to the list of countries to be "liberated".

Germany was not entirely prepared to divert large mechanized forces to the south. Rail links were overwhelmed with traffic; trains could not haul as much material as desired because they had to make their way up relatively steep grades through mountain ranges. In the end, these obstacles were overcome with Yugoslavia falling after relatively weak resistance, sometimes helped along by ethnic divisiveness within their armed forces. Greece was a tougher nut to crack: the country was united against the invaders and the United Kingdom contributed relatively substantial troops on the ground, beginning on March 7, 1941. Yet, by April 17, Yugoslavia capitulated, followed by Greece on April 30; Hitler was again victorious.

Unit deployments for the campaigns were as follows. Armee-Ober-Kommando 2 contained XLVI Panzer-Korps of 8. and 14.Panzer-Divisionen. Armee-Ober-Kommando 12 fielded XIV Panzer-Korps with 5. and 11.Panzer-Divisionen. XVIII Armee-Korps contained 2.Panzer-Division, and XL Panzer-Korps had 9.Panzer-Division. While most of the Panzer-divisionen were veteran units, this was the first time the newest units, 11. and 14.Panzer-Divisionen were to see combat. These units were further broken down as follows.

- 2.Panzer-Division, 2.Panzer-Brigade, Panzer-Regiment 3, of two Panzer-Abteilungen.
- 5.Panzer-Division, Panzer-Regiment 31, of two Panzer-Abteilungen.
- 8.Panzer-Division, Panzer-Regiment 10, of three Panzer-Abteilungen.
- 9.Panzer-Division, Panzer-Regiment 33, of two Panzer-Abteilungen.
- 11.Panzer-Division, Panzer-Regiment 15, of two Panzer-Abteilungen.
- 14.Panzer-Division, Panzer-Regiment 36, of two Panzer-Abteilungen.

Operation Merkur, Crete, May 20-June 1, 1941

The main goal of Hitler's airborne invasion of the Greek island of Crete was to deprive the Allies of air-bases within bombing range of his Romanian oil fields. German use of the air bases could turn the tables on the Allies in that part of the Mediterranean as well, especially since Hitler was forced to aid Mussolini in North Africa. The rapid build-up of logistics and the transport of the bulk of the assaulting troops by air using parachutes, gliders and air-landing by transport aircraft was unprecedented. The British and Commonwealth troops, as well as local forces, resisted fiercely; the campaign was so costly in men and material, that Hitler declared that the day of the airborne assault was over. Germany never again mounted another such large-scale operation.

Armored support was provided by a single Panzer-Kompanie (4.Kp. or 5.Kp., sources differ), detached from Panzer-Regiment 31, of the 5.Panzer-Division. At least two Pz.Kpfw.IIs marked as belonging to 4.Kompanie landed at Kastelli on May 27; they later fought at Rethymnon. Due to the improvised nature of the assault, no purpose-built tank landing craft were available. So, the Pz.Kpfw.IIs were towed in on barges; upon beaching the bow section of the barge was blown off with explosives and the Panzer proceeded to shore. Because of shipping weight constraints it is unlikely that heavier Panzer were deployed.

By June 1, the British Royal Navy had evacuated the bulk of the Allied troops on Crete, leaving it in German hands for the war's duration.

Operation Barbarossa, June 22, 1941

The clash of ideologies between Hitler's Nazi Germany and Stalin's Communist Soviet Union made an armed struggle inevitable. Although Germany's armed forces used the Soviet Union as a testing ground for new technologies, by the 1930's the rhetoric spewed by the propaganda machine of both camps became more strident. The involvement of both governments on opposite sides in the Spanish Civil War allowed them to size-up one another for future reference. However, political expediency caused a thaw in relations, allowing Soviet wheat and oil to feed Germany's war machine. As mentioned above, both nations secretly colluded to eradicate their traditional Polish foes. But this rapprochement was bound to fail; less than two years after their joint dismemberment of Poland, it did. Operation Barbarossa, which began on June 22, 1941, was the most massive land invasion the 20th-century was to witness; it also began the second-longest land campaign of the Second World War.

Three Heeresgruppen (army groups), Nord (north), Mitte (center) and Süd (south) were committed to this massive undertaking. Heeresgruppe Nord contained Panzer-Gruppe 4, which fielded the XLI Panzer-Korps, containing 1. and 6.Panzer-Divisionen; LVI Panzer-Korps added 8.Panzer-division. Heeresgruppe Mitte contained Panzer-Gruppe 2, which had XXVI.Panzer-Korps, with 3. and 4.Panzer-Divisionen. XLVI Panzer-Korps contained 10.Panzer-Division, while XLVII.Panzer-Korps held 17. and 18.Panzer-Divisionen. Panzer-Gruppe 3 contained XXXIX.Panzer-Korps with 7. and 20.Panzer-Divisionen; LVII.Panzer-Korps fielded 12. and 19.Panzer-Divisionen. Heeresgruppe Süd contained Panzer-Gruppe 1, with 13.Panzer-Division directly subordinated to it. Other elements included III.Panzer-Korps with 14.Panzer-Division, XIV.Panzer-Korps with 9. and 16.Panzer-Division. In addition, Armee-Ober-Kommando Norwegen contained Panzer-Abteilung z.b.V.40 and Panzer-Abteilung 211, while Heerestruppen held three Panzer-Abteilungen (Flamm), numbered 100, 101 and 102. These units were further broken down as follows.

- 1.Panzer-Division, Panzer-Regiment 1, of two Panzer-Abteilungen. 3.Panzer-Division, 5.Panzer-Brigade, Panzer-Regiment 6, of three Panzer-Abteilungen.
- 4.Panzer-Division, Panzer-Regiment 35, of two Panzer-Abteilungen.
- 6.Panzer-Division, Panzer-Regiment 11, of three Panzer-Abteilungen.
- 7.Panzer-Division, Panzer-Regiment 25, of three Panzer-Abteilungen.
- 8.Panzer-Division, Panzer-Regiment 10, of three Panzer-Abteilungen.
- 9.Panzer-Division, Panzer-Regiment 33, of two Panzer-Abteilungen.
- 10.Panzer-Division, 4.Panzer-Brigade, Panzer-Regiment 7, of two Panzer-Abteilungen.
- 11.Panzer-Division, Panzer-Regiment 15, of two Panzer-Abteilungen.
- 12.Panzer-Division, Panzer-Regiment 29, of three Panzer-Abteilungen.
- 13.Panzer-Division, Panzer-Regiment 4, of two Panzer-Abteilungen.
- 14.Panzer-Division, Panzer-Regiment 36, of two Panzer-Abteilungen.
- 16.Panzer-Division, Panzer-Regiment 2, of two Panzer-Abteilungen.
- 17.Panzer-Division, Panzer-Regiment 39, of three Panzer-Abteilungen.
- 18.Panzer-Division, 18.Panzer-Brigade, Panzer-Regiment 18, of three Panzer-Abteilungen.

- 19.Panzer-Division, Panzer-Regiment 27, of three Panzer-Abteilungen.
- 20.Panzer-Division, Panzer-Regiment 21, of three Panzer-Abteilungen.

From September 1941, through May of 1942, the following Panzer units reinforced the Ostfront.

- 2.Panzer-Division, Panzer-Regiment 3, of two Panzer-Abteilungen.
- 5.Panzer-Division, Panzer-Regiment 31, of two Panzer-Abteilungen.
- 22.Panzer-Division, Panzer-Regiment 204, of three Panzer-Abteilungen.
- 23.Panzer-Division, Panzer-Regiment 201, of three Panzer-Abteilungen.
- 24.Panzer-Division, Panzer-Regiment 24, of three Panzer-Abteilungen.
- Infanterie-Division Großdeutschland fielded Panzer-Abteilung Großdeutschland.
- SS-Division (mot) Wiking deployed SS-Panzer-Abteilung 5.

Heerstruppen reserve units included Panzer-Regiment 203, Panzer-Abteilung 300, Panzer-Abteilung z.b.V.66, schwerer Panzer-Abteilung 502 (with the newly-introduced Pz.Kpfw.VI, Tiger I) and Panzer-Kompanie 223.

Heeresgruppe-Nord objective was Leningrad which was encircled by 8 September and not relieved until January 27, 1944. Germany's ally in the north, Finland, offered no real help regarding offensive actions, as it only wished to regain territory lost to the Soviets in the so-called "Winter War" of 1940. The Soviets' forward deployment of the majority of their field units left them with no room to maneuver, playing into Germany's hands; however, as the Germans headed further north, terrain forced them to move on many narrow, mutually un-supported fronts. Combat in the north then settled down to a war of attrition centered around the epic siege of Leningrad.

Heeresgruppe Mitte prime objective was the destruction of Red Army forces, with the conquest of Moscow given less weight. In the beginning, the Soviets looked for Germany's main effort to fall in the south and deployed their forces accordingly. Advancing rapidly, Germany encircled Minsk within a week of Operation Barbarossa's start, with Smolensk falling by August 5. Re-oriented towards Moscow, German units entered Krasniya Polyana, a mere 12 miles from Moscow's Kremlin. However, the weather and Soviet counter-offensives made this the high-water of the German advance.

Heeresgruppe Süd took Kiev on September 24 and Odessa on October 15. The Germans then went on to occupy much of the vital Ukraine; as a follow-up they entered the Crimea and begin the siege of Sevastopol on October 30th. After a long and costly campaign, the fortified port city is taken on July 4, 1942. When they renew their offensives in the spring of 1942, the Germans are able to reach Stalingrad on the Volga by September 14. Sucked into an urban meat-grinder, the battle ends on February 2, 1943 with the complete collapse of the German 6.Armee.

Although the Germans managed to gain their initial phase line on the Dvina/Dnepr Rivers, command indecision, an over-extended logistics tail, Soviet counter-thrusts, terrain and weather hindered any further meaningful advances. In addition, the Germans lacked a long-term strategic plan and none of their army group commanders maintained their positions past the middle of January 1942. Based on their experiences in Poland and the west, German planners arrogantly expected to end the war in ten weeks. In addition, faulty intelligence caused them to badly underestimate the Red Army's size and abilities. For their part, the Soviets' forward deployment of their armies removed these units from pre-war defensive lines and placed them further away from their support elements. Stalin's pre-war purges robbed the Red Army of some of its most dynamic leaders, resulting in a defensive plan that could not cope with the initial speed of German advances. In addition, much like their German counterparts, the initial Soviet commanders were sacked or liquidated very early in the campaign.

Thus began a battle of attrition that Germany could never win, and which cost the protagonists tens of millions of dead.

Sources

It should be noted that only German operations from September 1939 until the close of 1942 will be surveyed in this book. There will be no coverage of the actions by various German units in North Africa. It should also be noted that all the color plates in this book are based on contemporary photographs, some of which do not appear in this book.

Information regarding unit structure and allocations was gleaned from Jentz's "Panzertruppen 1", supported by "Panzer Divisions of World War 2", by D. Crow and Brigadier H.B.C Watkins, and "German Order of Battle Vol.3: Panzer, Panzer-Grenadier and Waffen-SS Divisions in WWII", by S. Mitcham. The information on the various campaigns is based in part on books in the Osprey Campaigns series. Titles consulted included: "Poland 1939", by S. Zaloga; "Denmark and Norway 1940", by D. Dildy; "France 1940" by A. Sheppard; "Crete 1941", by P. Antill; Operation Barbarossa Vols.1, 2 and 3, by R. Kirchubel; "Moscow 1941", by R. Forczyk; Sevastopool 1942, by R. Forczyk and "Stalingrad 1942", by P. Antill. Other sources are: "The Polish Campaign 1939", by S. Zaloga and V. Madej; "The German Campaign in Poland (1939)", by Maj. R. Kennedy; "The German Campaigns in the Balkans (Spring 1941), no author, and "The Russo-German War 1941-45", by A. Seaton. German colors and markings were researched using Zaloga's "Blitzkrieg, Armor Camouflage & Markings 1939-1940" and "The Eastern Front, Armor Camouflage & Markings 1941 to 1945", as well as "Panzerwaffe" Volumes 1 and 2, by J. Prigent & company. This was supplemented by Panzer Tracts No.1-2, by T. Jentz and H. Doyle. Information on the physical and technical characteristics of the German AFVs seen in this book are based on that presented in the "Encyclopedia of German Tanks of World War Two (Revised Edition)", by P. Chamberlain, H. Doyle & T. Jentz, backed by titles in the Panzer Tracts series by Jentz and Doyle. Other sources on various German AFVs included several titles in the Nuts & Bolts series. Information related to German half-tracks, wheeled transport and trailers was gleaned from "German Half-Tracked Vehicles of World War 2" and "German Military Transport of World War Two", both by J. MIlsom, and "Directory of Wheeled Vehicles of the Wehrmacht", by C. Ellis.

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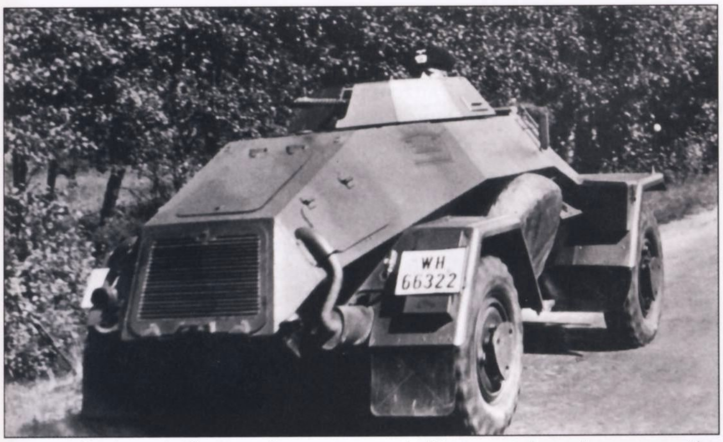
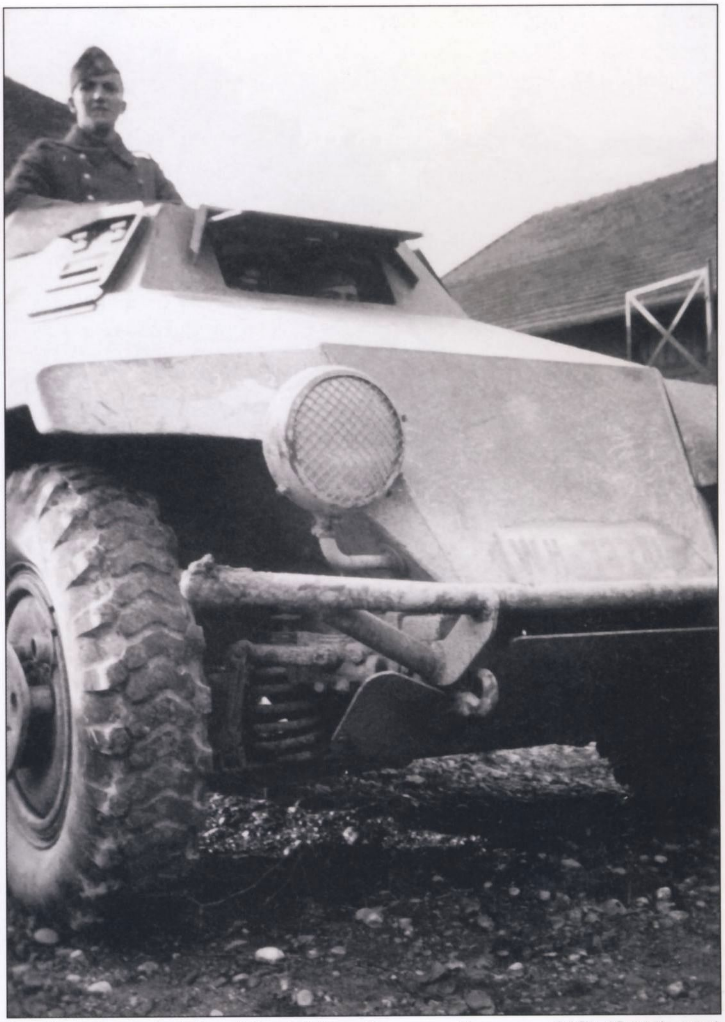
The author acknowledges the debt owed to those whose work is listed above, begs their indulgence if any errors of fact or interpretation are in evidence, and takes full responsibility if that be the case. My lasting gratitude goes to my partner Laurent Lecocq for his patience as well as his wonderful color plates. The team at Concord, headed by Freddie Leung is also to be thanked for the results of their on-going quest to procure new and interesting images.

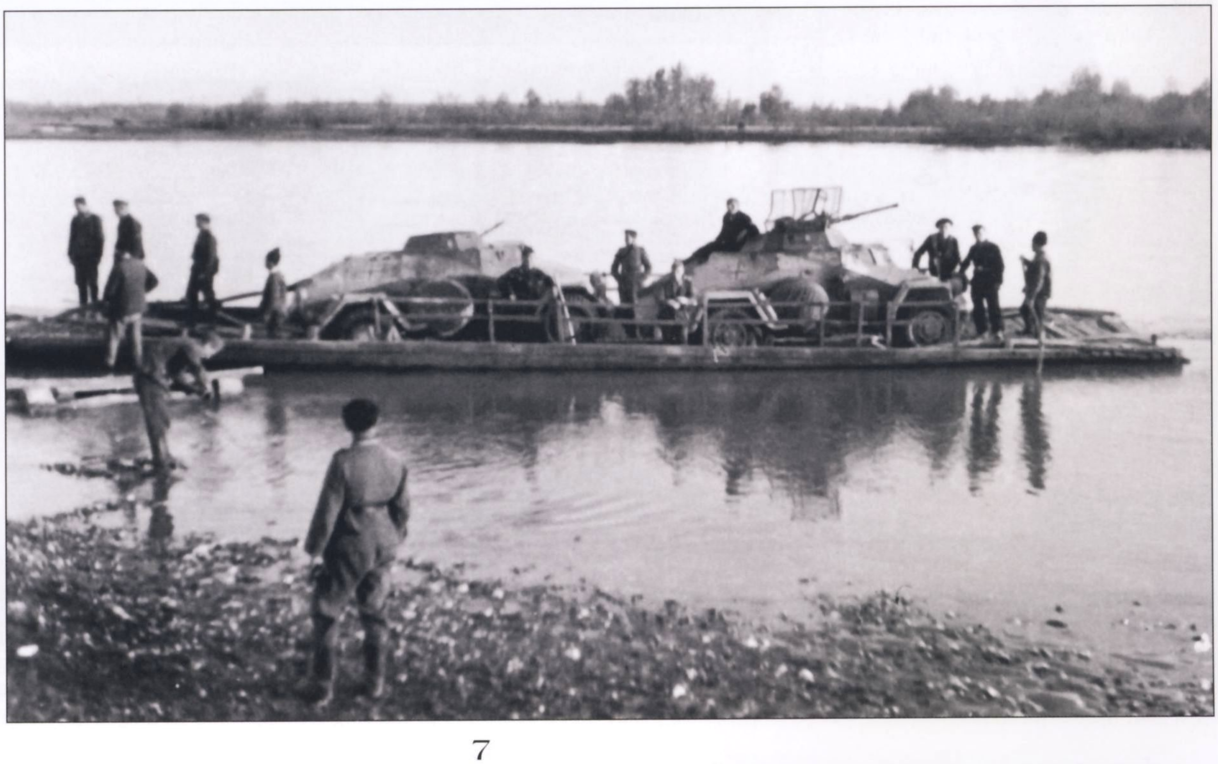


Among Germany's first modern, purpose-built armored car types was the leichter Panzerspähwagen (MG) (Sd.Kfz.221). One is pictured here wearing the pre-war "feuersicherem Buntfarbenanstrich" three-tone system of Nr.17 Erdgelb-matt, Nr.28 Grün-matt and Nr.18 Braun-matt sprayed on in a soft-edge pattern. This vehicle wears Heer (army) registration plates, WH-66322 on the rear wheel wells; another interesting point is the painted-on view port, which was presumably applied to divert the aim of any enemy fire that might be directed at this vehicle.

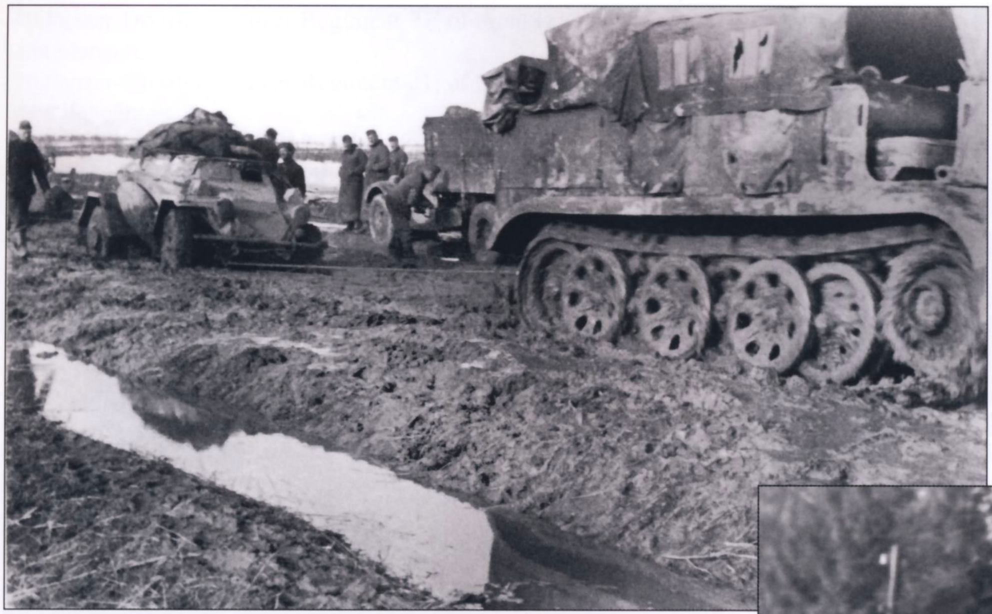
A leichter Panzerspähwagen (MG) (Sd.Kfz.221) moves along a railroad line, possibly during the French Campaign in 1940; note what appears to be a white-outline Balkenkreuz on the side armor plate. From this distance, the vehicle type can also be recognized by the plate that slopes from the upper deck, behind the turret, down to the engine rear cooling grill.



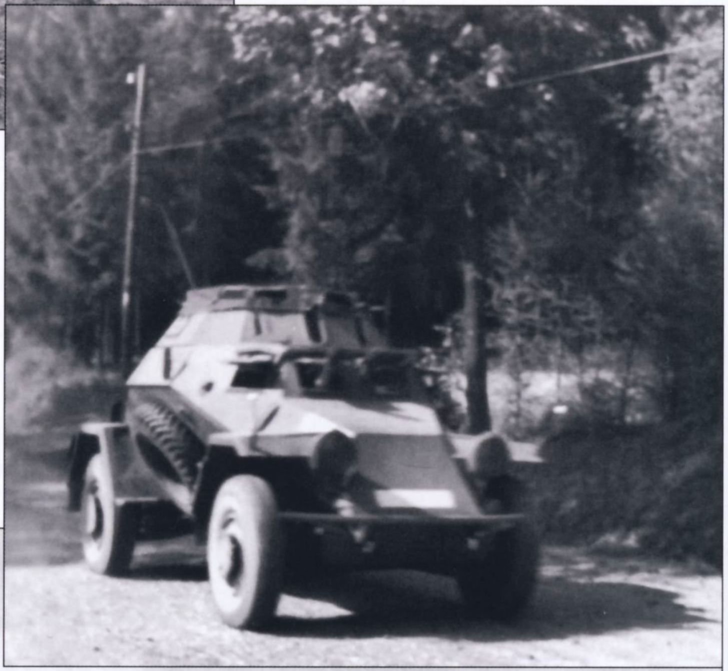
Another characteristic of the leichter Panzerspähwagen (MG) (Sd.Kfz.221) was the large, single-piece visor over the driver's compartment, as seen here. Other details of note include the wire-mesh brush guard fitted over the head-lamp, frame for a pennant on the far side and the tubular reinforced bumper. This view also affords a look at the coil-spring bundle under the front wheel, which also has an armored cover over the wheel hub.



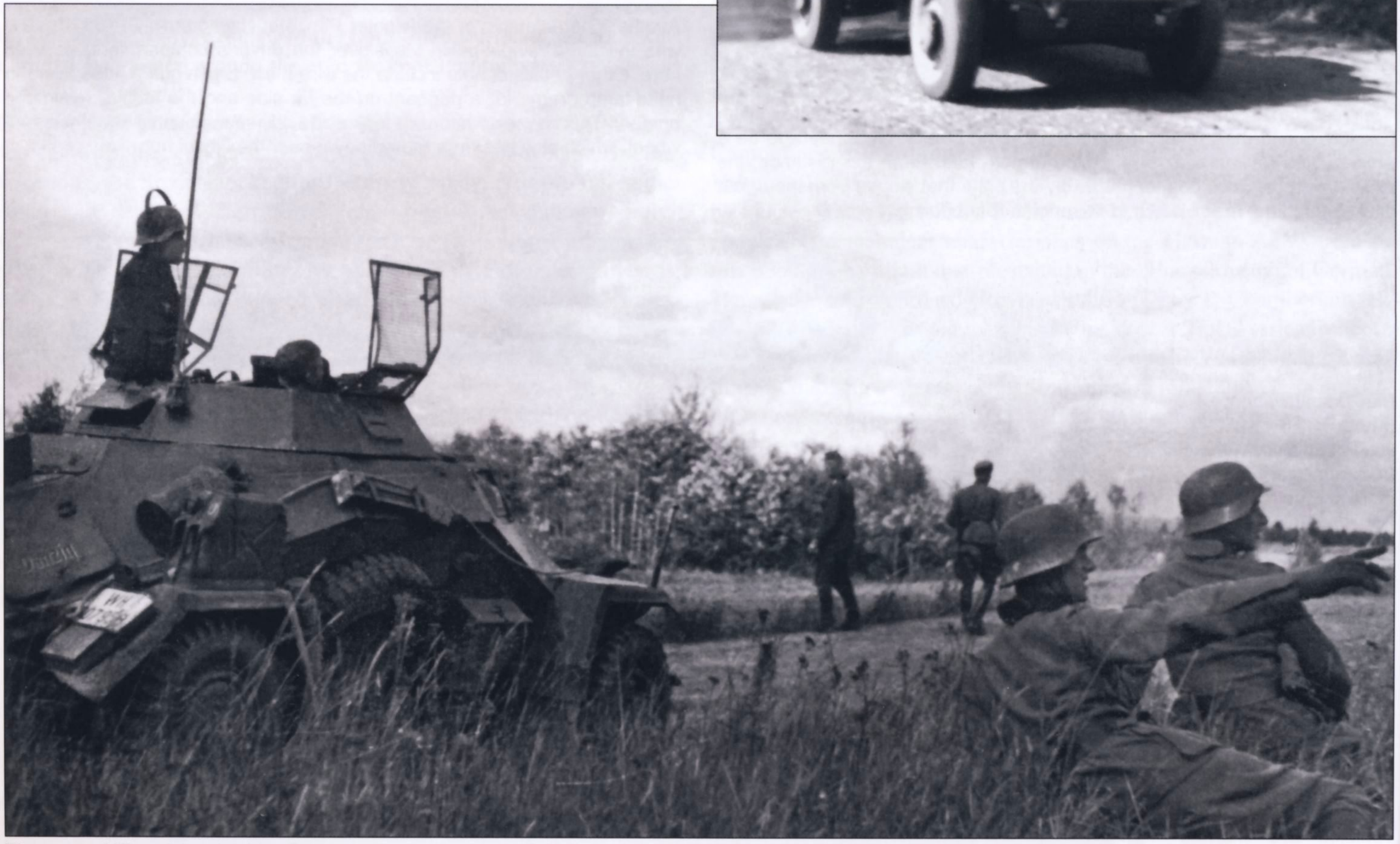
This leichter Panzerspähwagen (MG) (Sd.Kfz.221) accompanies its more heavily-armed stable-mate, the leichter Panzerspähwagen (2cm) (Sd.Kfz.222) on a ferry during a river crossing. This view allows for an excellent comparison between the types; note the larger turret with the 2cm KwK on the Sd.Kfz.222 and the smaller turret mounting an MG34 on the Sd.Kfz.221. Both vehicles are marked with white-outline Balkenkreuz national insignia on their flanks.



With its roof piled high with all sorts of soft gear, it is difficult to positively identify this specific vehicle type, although it is most likely a leichter Panzerspähwagen (MG) (Sd.Kfz.221). The thoroughly mud-encrusted vehicle is being hauled through the Russian "Rasputitsa" by a mittlerer Zugkraftwagen 8-ton (Sd.Kfz.7) artillery prime mover. These large half-tracks, although designed primarily to haul artillery, were extensively called upon to rescue stuck or otherwise disabled vehicles whenever the need arose.

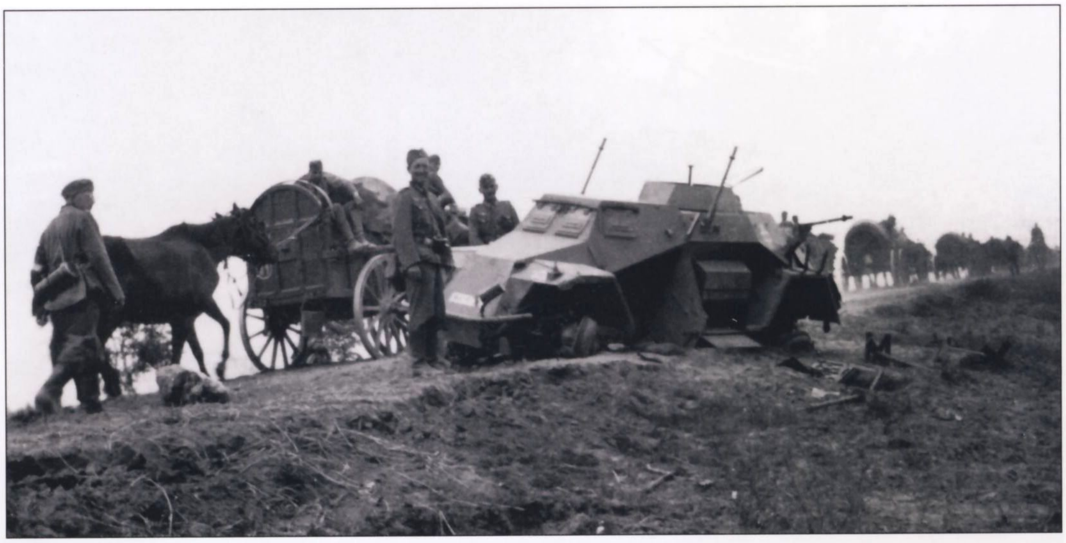


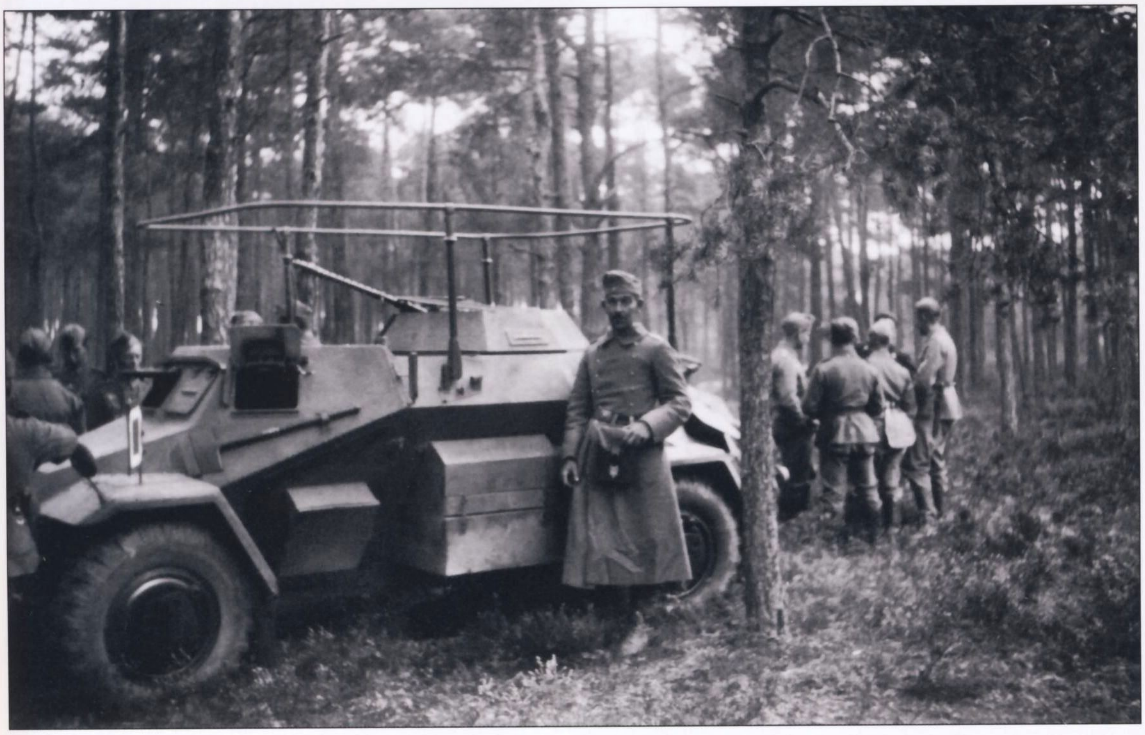
A leichter Panzerspähwagen (2cm) (Sd.Kfz.222) speeds along a country lane, probably during the French Campaign of 1940. Note the spare wheel fitted to the starboard side of the body-work; often these wore a canvas protective cover, but that is absent here. The turrets of these four-wheeled armored cars were all open on top in order to facilitate observation. They were also commonly fitted with a mesh framework to keep out such things as hand grenades; in this case it is in the closed position.



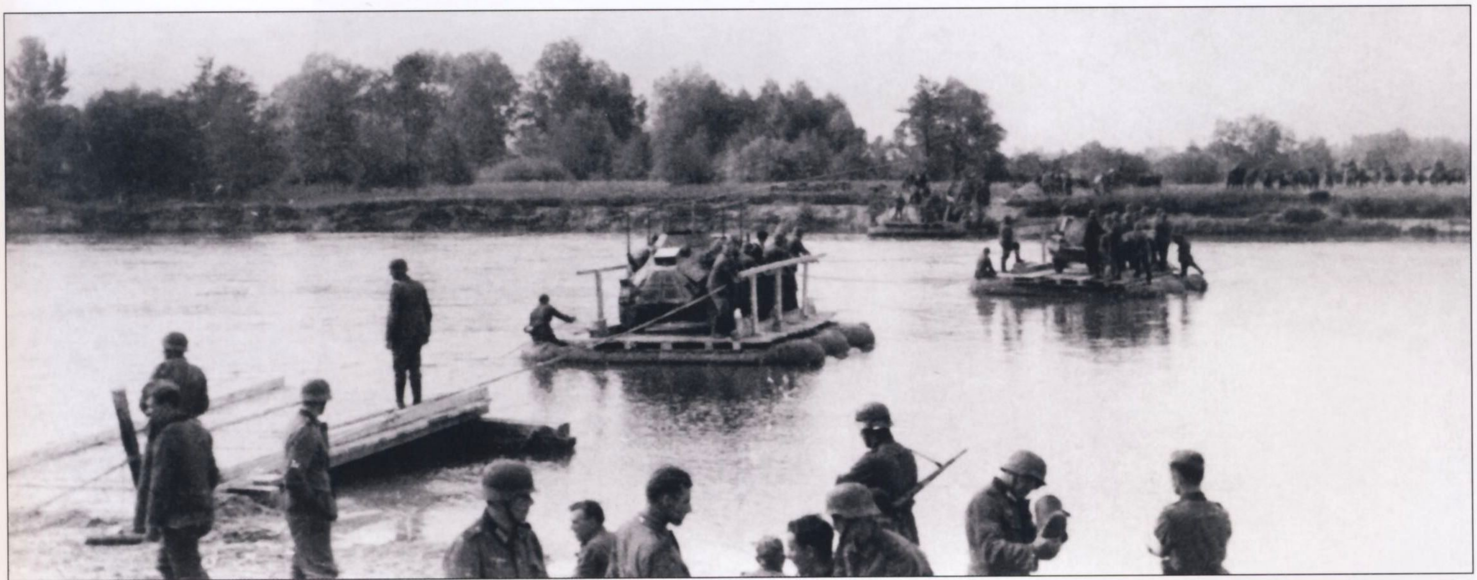
The crew of "Danzig", a leichter Panzerspähwagen (2cm) (Sd.Kfz.222), pauses to make an observation, while accompanying infantrymen take a break. The view-port flap configuration identifies this as an Ausf.B, while the turret mounts a rod antenna. Radios were not a standard feature of this vehicle as originally built; they were retrofitted beginning in 1941. No other markings are visible on the vehicle, while the image probably depicts service on the Ostfront.

Another armored car type based on the same four-wheel drive chassis as the Sd.Kfz.221 and 222, is the leichter Panzerspähwagen (Fu) (Sd.Kfz.223). It mounts the same small turret as the '221, but the hull armor configuration is that of the '222, with a step between the upper deck and the plate that slopes down towards the rear. Neither the Sd.Kfz.221 nor Sd.Kfz.222 was initially fitted with a radio, so the Sd.Kfz.223 was used to maintain a radio link with the rear. It carried an Fu10 and later an Fu12 radio set, which transmitted using a Rahmenantenne (frame antenna). This knocked-out armored radio car has only the remnant of the antenna remaining.

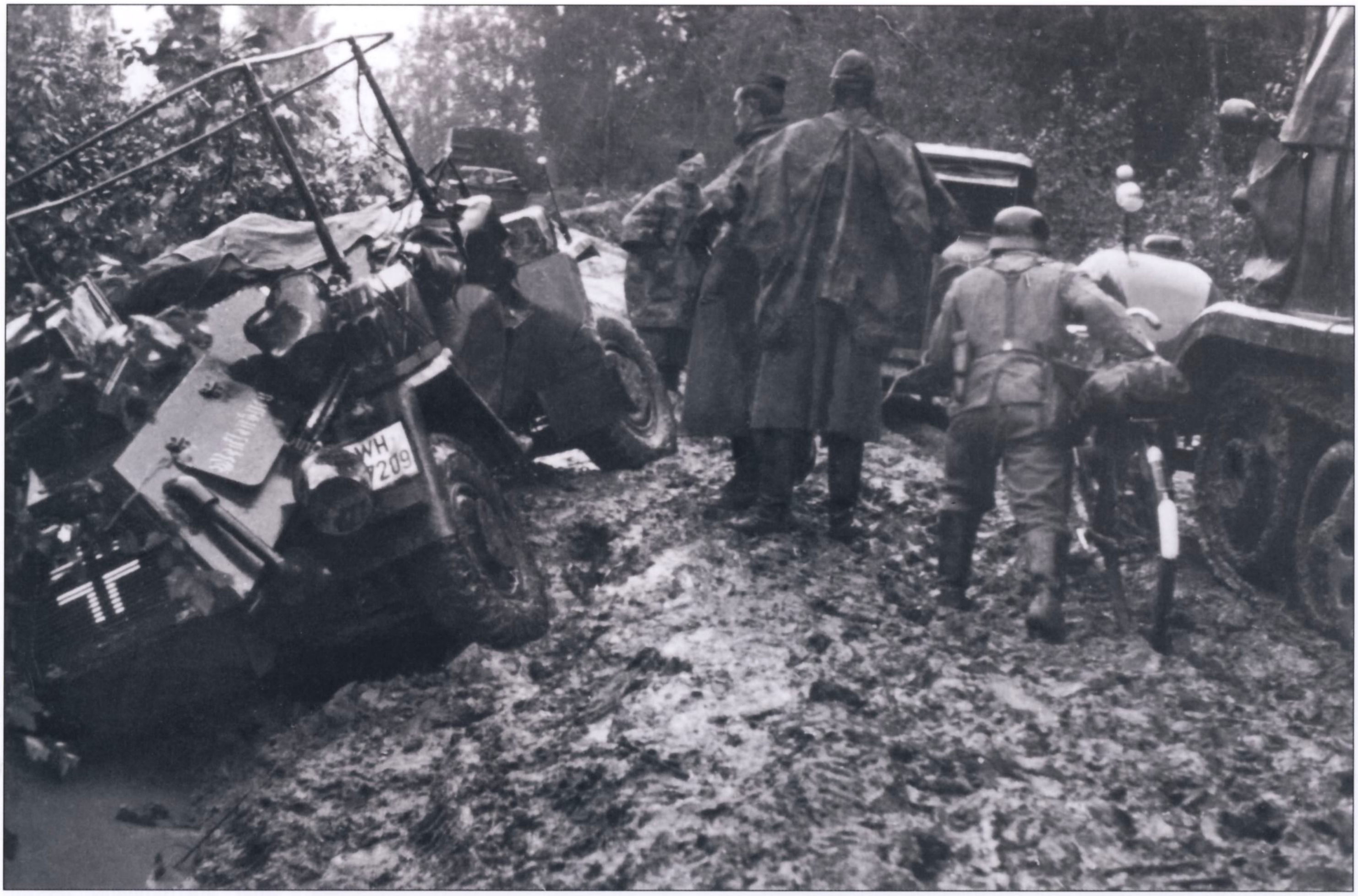




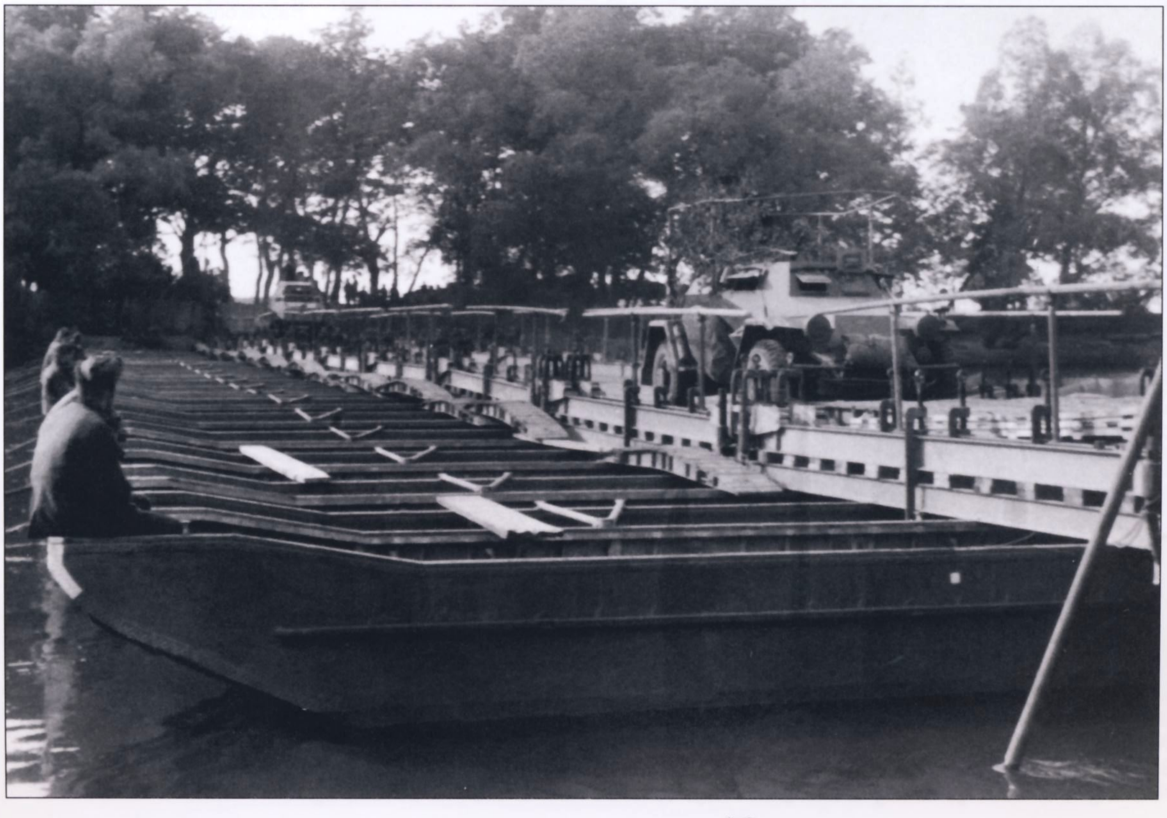
Hidden in a forest, a leichter Panzerspähwagen (Fu) (Sd.Kfz.223) participates in what are probably pre-war exercises. The red/white square seen in the pennant frame on the near wheel well is often seen in pre-war images. The turret appears to mount a weapon other than the usual MG34; often a 7.92mm Panzerbüchse 38 or 39 anti-tank rifle was mounted as a supplement to the MG34. The configuration of the view-port flaps identifies this as an Ausf.A.



A reconnaissance section uses ferries to cross a river, in the company of a number of foot-soldiers. The near vehicle is a leichter Panzerspähwagen (Fu) (Sd.Kfz.223); note the Rahmenantenne (frame antenna} and the small turret for the MG34 main armament. The Sd.Kfz.223 wears a large, white-outline Balkenkreuz national insignia on the engine air cooling intake grill, dating the image as no earlier than the French campaign of 1940.

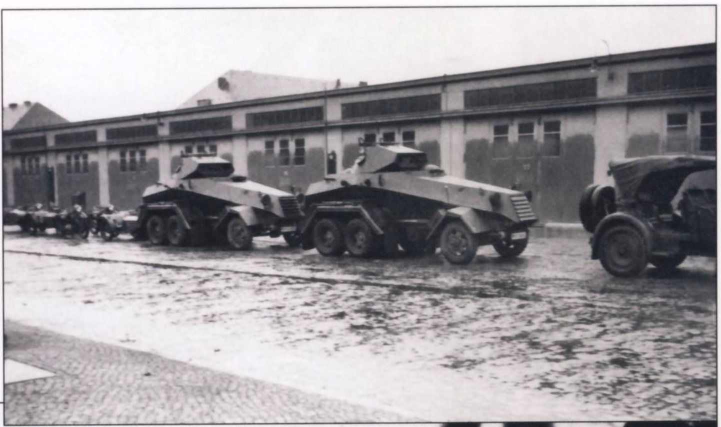


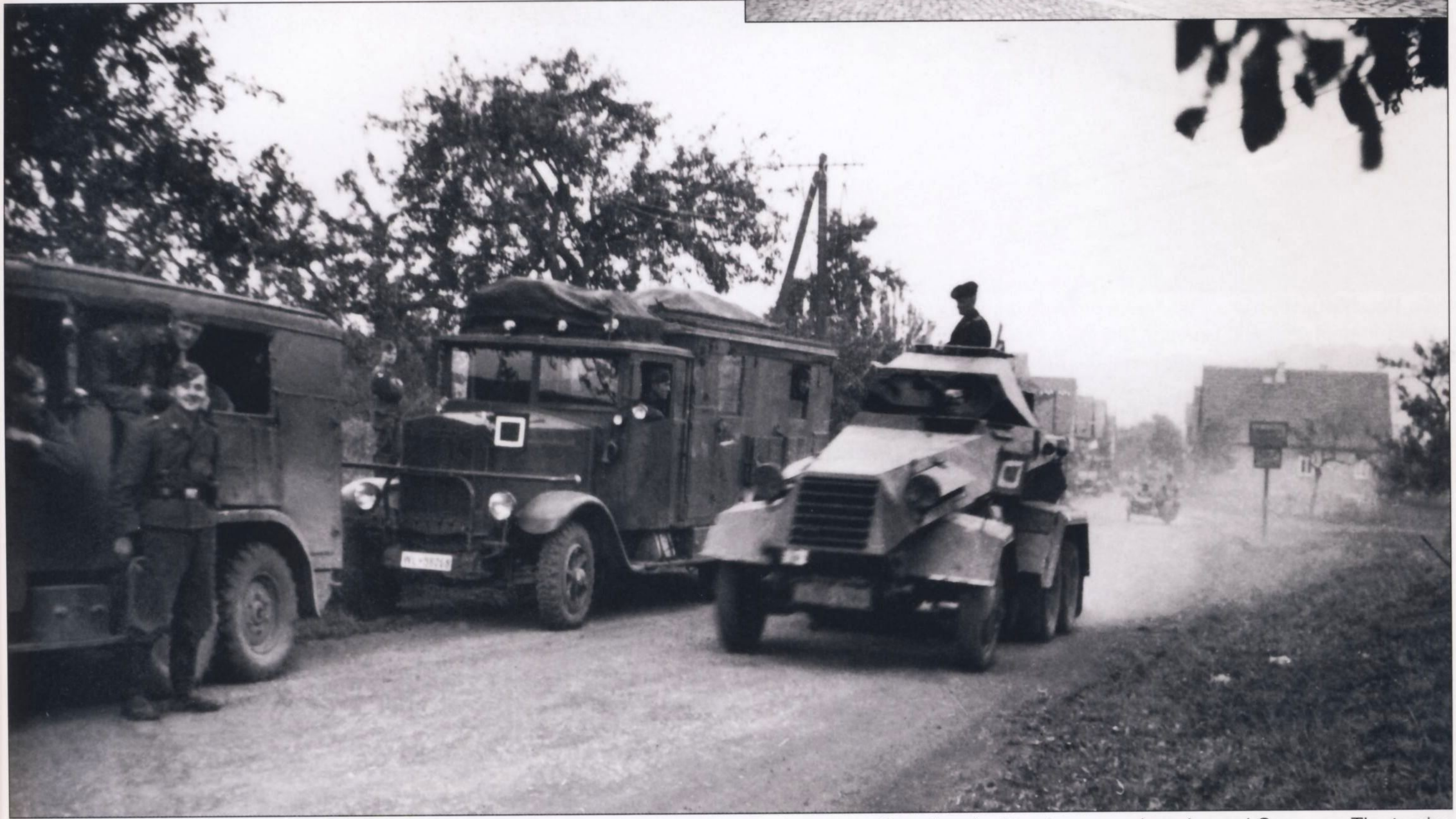
What appears to be a kleiner Panzerfunkwagen (Sd.Kfz.260 or 261), seems to have come to grief on the side of an extremely worn and muddy forest track. A canvas tarp has been placed over the crew compartment; its profile suggests there is no turret, thereby ruling out the possibility that this is actually leichte Panzerspähwagen (Fu) (Sd.Kfz.223). It is marked as it would have appeared from the time of the French Campaign of 1940, and after; the locale suggests the forests of the northern Soviet Union in 1941 or later. The rear deck is piled with various pieces of gear, while a 20-liter jerry can has been fitted to a rack on the aft wheel well. A white-outline Balkenkreuze national insignia can be seen on the engine air cooling grill, while a registration plate, WH-??209 can be seen on the rear face of the wheel well. A tactical sign for a motorized infantry unit can also be seen on one of the stowage items on the rear deck and an (unfortunately) illegible name has been painted on the rear of the superstructure side plate.



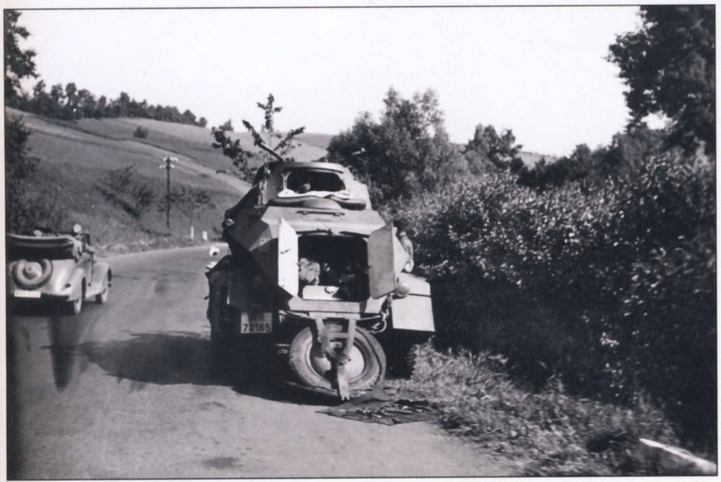
This kleiner Panzerfunkwagen (Sd.Kfz.260 or 261) crosses an engineer pontoon bridge, followed at a distance by a schwerer Panzerspähwagen (Sd.Kfz.231) 8 Rad. This armored radio car is identified by the Rahmenantenne (frame antenna) and the open roof plate with its unique anti-grenade mesh screen in the closed position. Note how traffic is segregated on the pontoon bridge; the vehicles use the main central ramps, while foot traffic would be diverted to the side, using the already emplaced Übergangsschienen (engineer bridging ramps).

A pair of schwerer Panzerspähwagen (Sd.Kfz.231) 6 Rad lines up with other vehicles of a reconnaissance unit outside the vehicle sheds of its home station. In preparation for Hitler's grand dream of totalitarian domination, Germany invested heavily in new infrastructure construction at her military bases; as her armed forces began to mechanize such vehicle sheds became more common. The heavy armored cars have had their main and secondary weapons, the 2cm KwK30 and the co-axial MG34, removed, a usual occurrence during pre-war exercises. Note that both armored cars have a mount for an anti-aircraft machine-gun on the turrets.

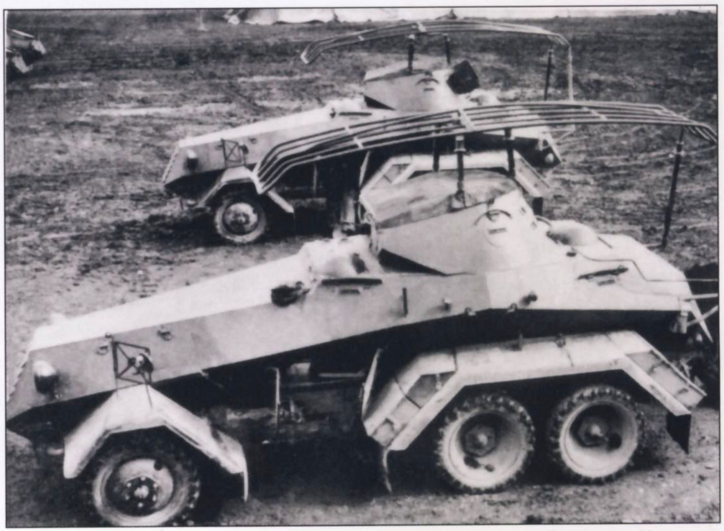




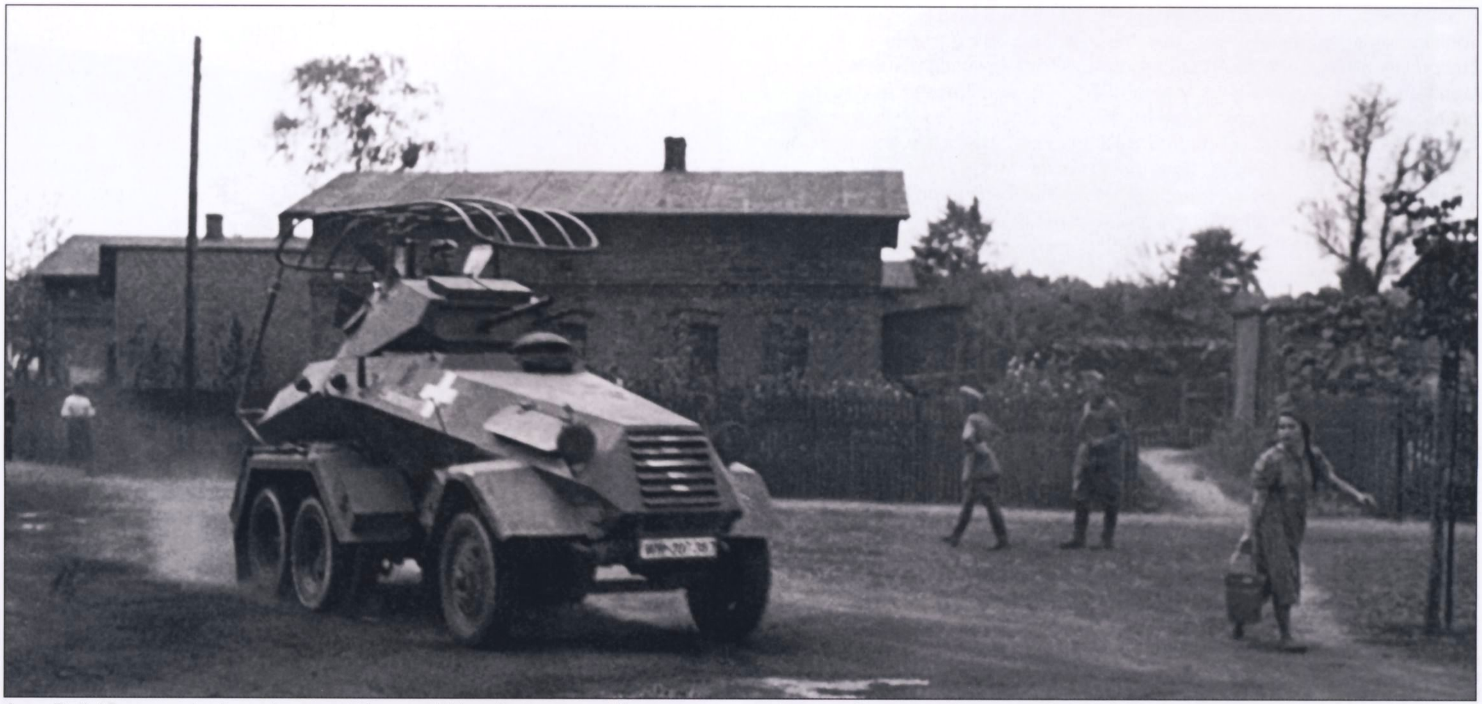
Seen during pre-war exercises, this schwerer Panzerspähwagen (Sd.Kfz.231) 6 Rad passes a line of parked trucks somewhere in rural Germany. The trucks, Krupp L3H163s, are Luftwaffe assets as denoted by the WL prefix on the visible registration plates; the standing man is also wearing the shorter Luftwaffe "Fleigerblouse" or tunic. All vehicles wear the red and black square in their pennant holders and are otherwise devoid of any other markings.



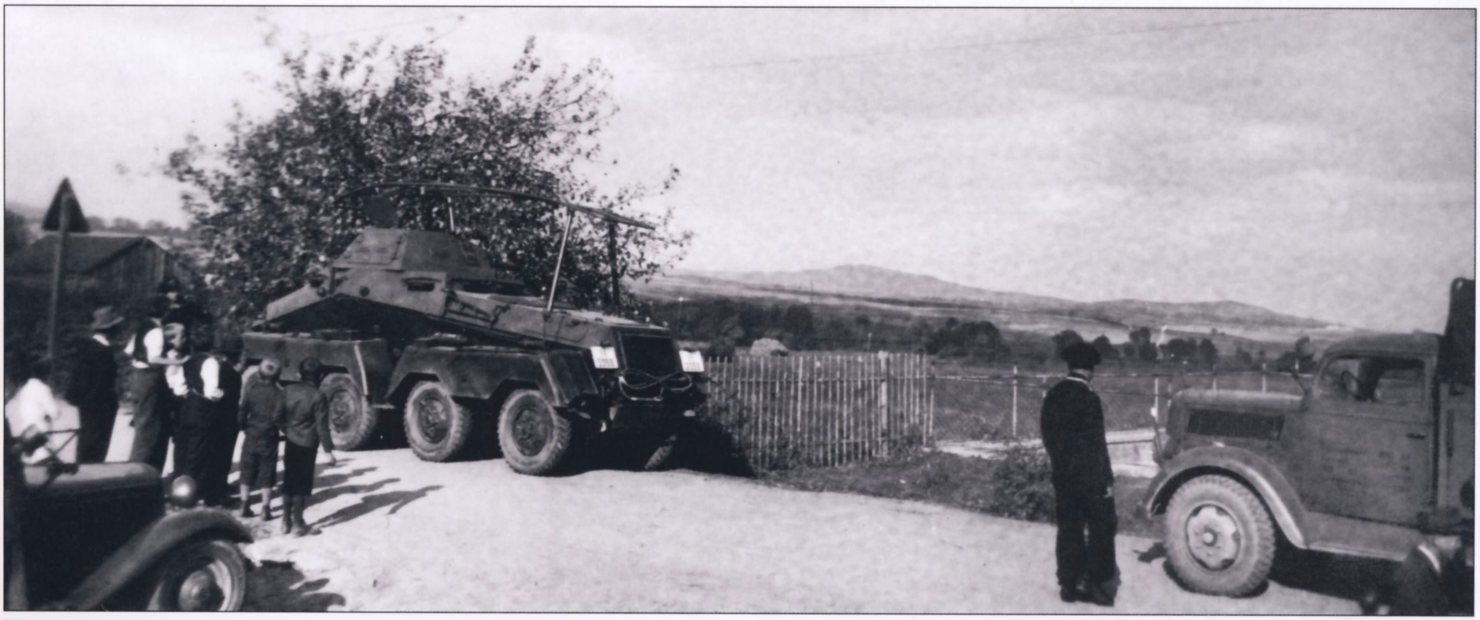
Disabled and apparently abandoned on a country road, probably during the French Campaign of 1940, a schwerer Panzerspähwagen (Sd.Kfz.231) 6 Rad is passed by a commandeered civilian automobile. WH-70165 wears an unidentified insignia on the port side of the engine compartment; otherwise no other markings are visible. Note the open rear doors on the turret and the way the spare wheel's mount is folded down to allow the opening of the engine deck access hatch lids.



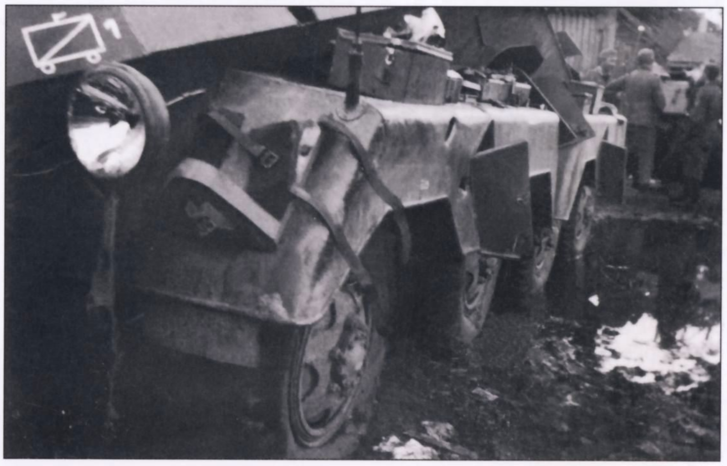
Seen without any armament fitted, this pair of schwerer Panzerspähwagen (Fu) (Sd.Kfz.232) 6 Rad heavy armored cars stands idle during field exercises. Note the turret roof plates covered with a custom-fitted canvas foul weather cover and the frames to mount pennants on the front, port-side wheel wells of both vehicles.



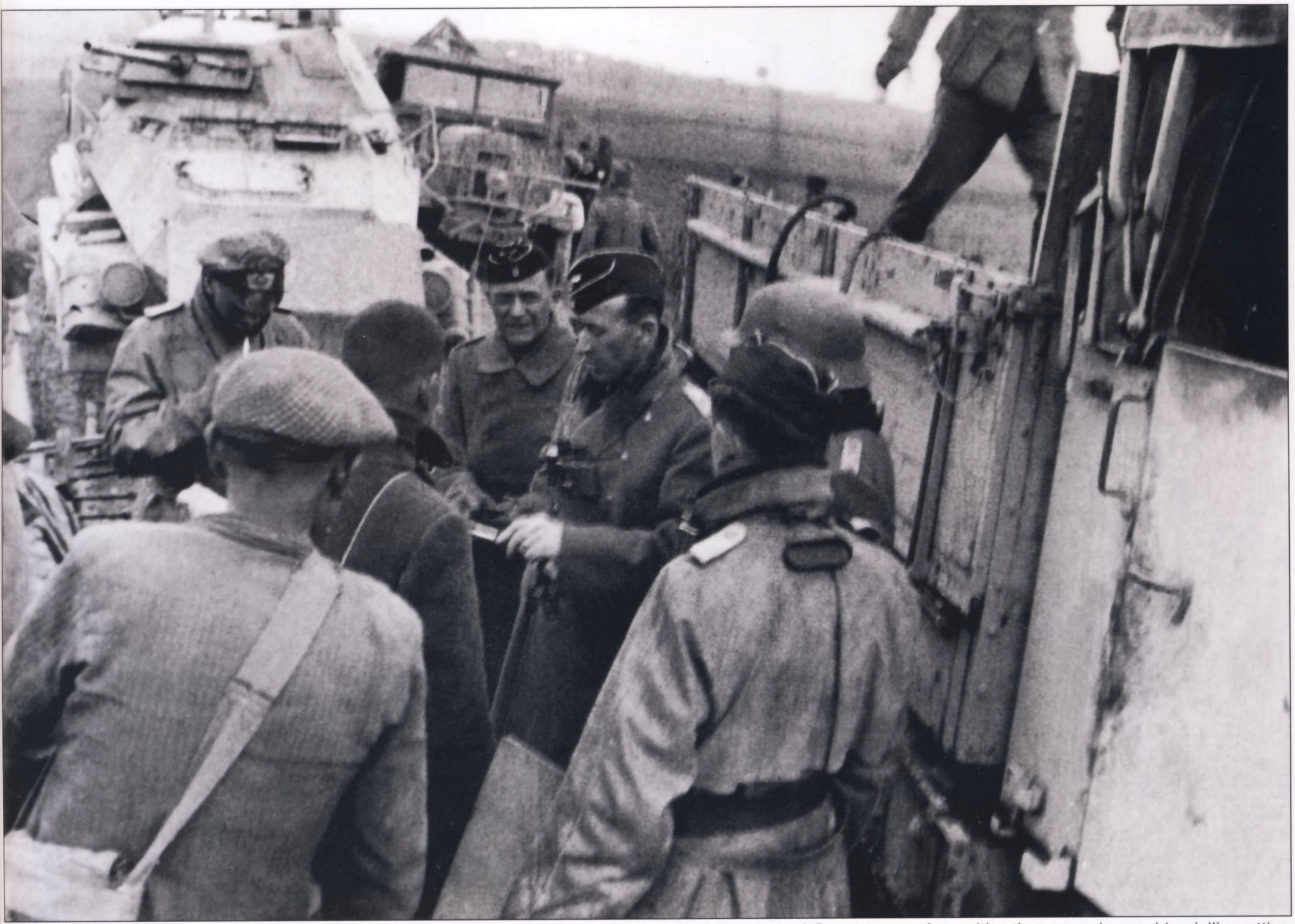
As a Polish woman looks askance at the would-be destroyers of her country, a schwerer Panzerspähwagen (Fu) (Sd.Kfz.232) 6 Rad rolls forward. It would appear from photographs seen in this book that applying names to armored reconnaissance vehicles was rather common during this era; unfortunately the name seen here is not fully legible, but it may be "Scharnhorst". Otherwise, the vehicle exhibits the large, solid white Balkenkreuze national insignia on the radiator grill and the side of the superstructure. The Heer (army) registration plate seen low on the bow seems to read WH-707367, but the quality of the original image precludes this being a certainty. Note the stowage on the turret roof, the method of mounting the Rahmenantenne (frame antenna) and the open flaps for improved cooling on the side of the engine compartment.



The casual attitude of the civilians, the berets worn by both soldiers, and the lack of any visible markings other than the vehicle registration plates, points to a pre-war image taken somewhere in southern Germany. Amongst the more interesting details to note on this schwerer Panzerspähwagen (Sd.Kfz.231) 8 Rad is an extendable mount for an anti-aircraft machine-gun, seen here on the port-side superstructure, just above the aft wheel well.

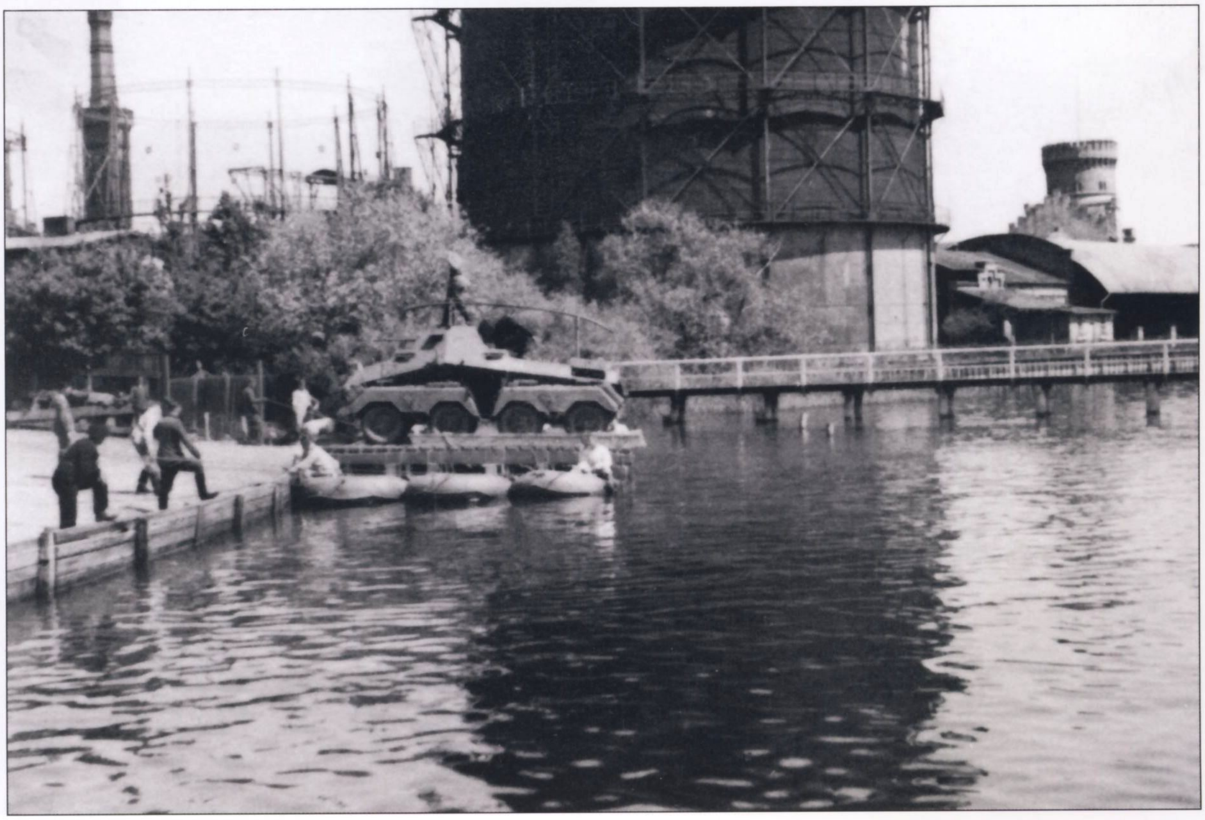


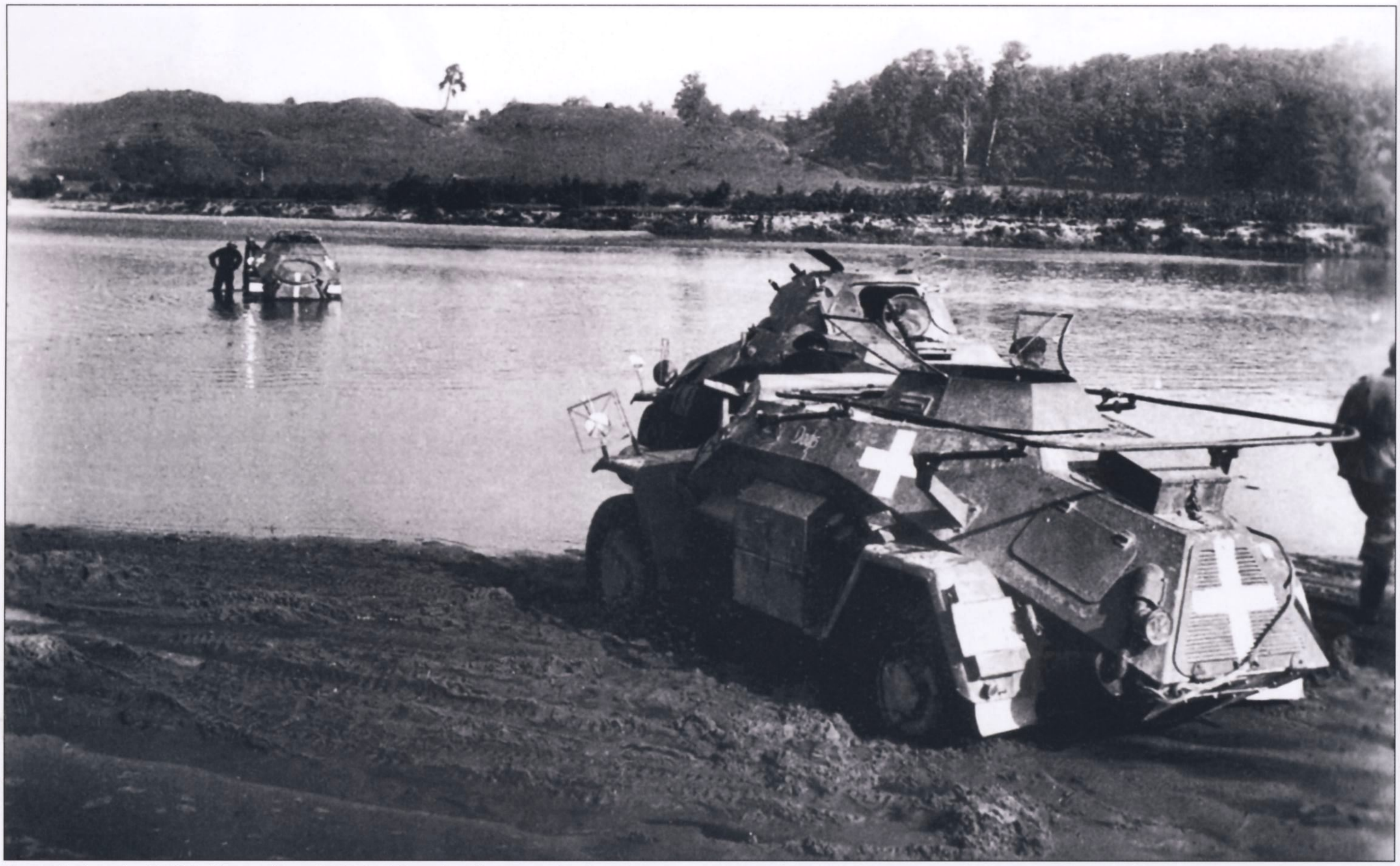
The front end of what is very likely a schwerer Panzerspähwagen (Sd.Kfz.231) 8 Rad shows a bit of battle damage. Note the broken headlamp lens, the various perforations on the forward-most wheel well, and the penetration of the superstructure armor; the front-most tire is also flat. A tactical sign for a wheeled reconnaissance asset assigned to a motorized infantry formation can be seen on one facet of the nose armor.



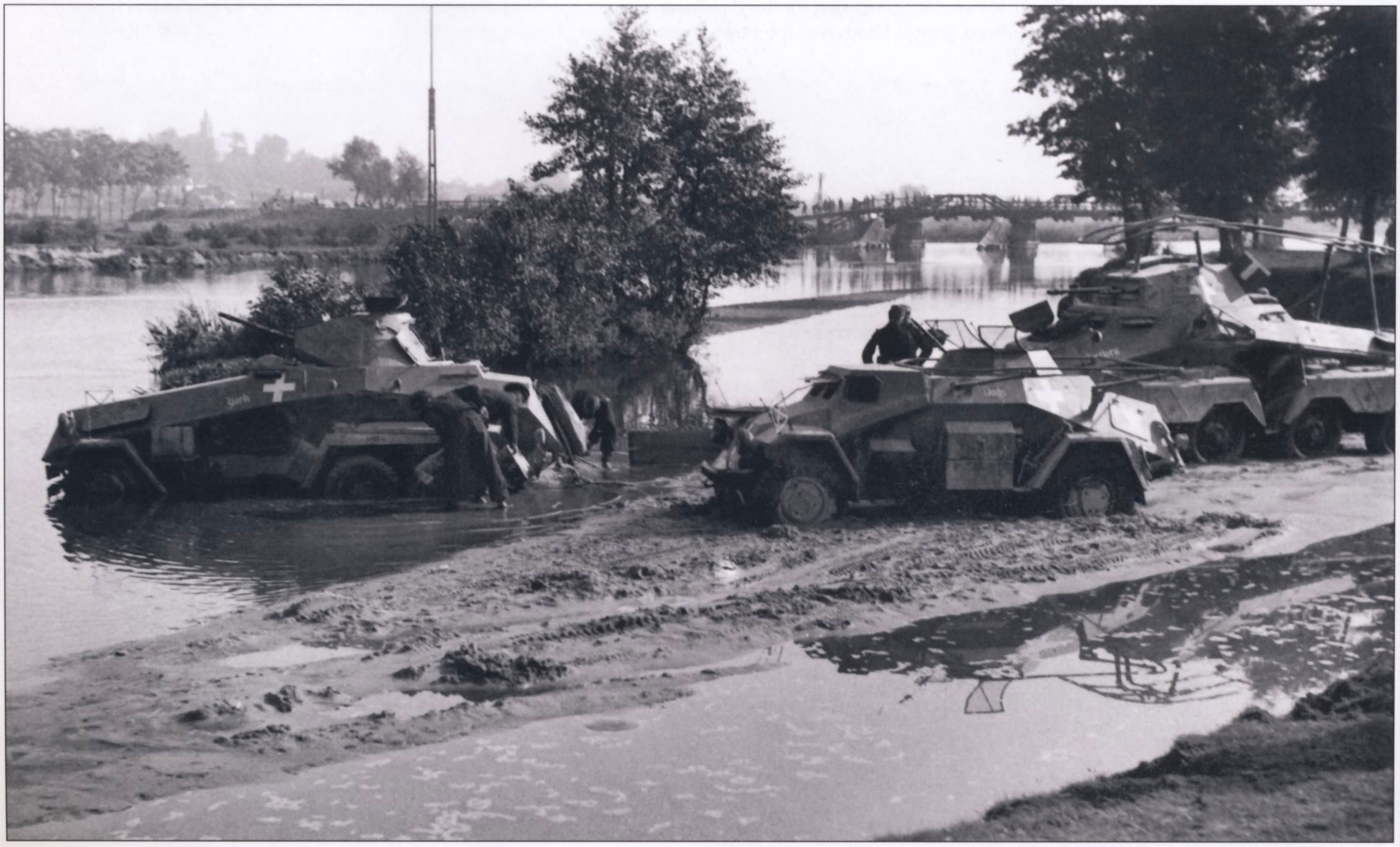
With their schwerer Panzerspähwagen (Sd.Kfz.231) 8 Rad parked in the background, a group of Germans confers with other men dressed in civilian attire. Their attitude and dress suggests that the men are locals working for the Germans, or perhaps Germans themselves dressed for a clandestine mission. Note that the Sd.Kfz.231 has had Vorpanzer (spaced armor) fitted over the bow; taken together, these visual clues point to the location of this tableau being on the Ostfront, probably in 1942.

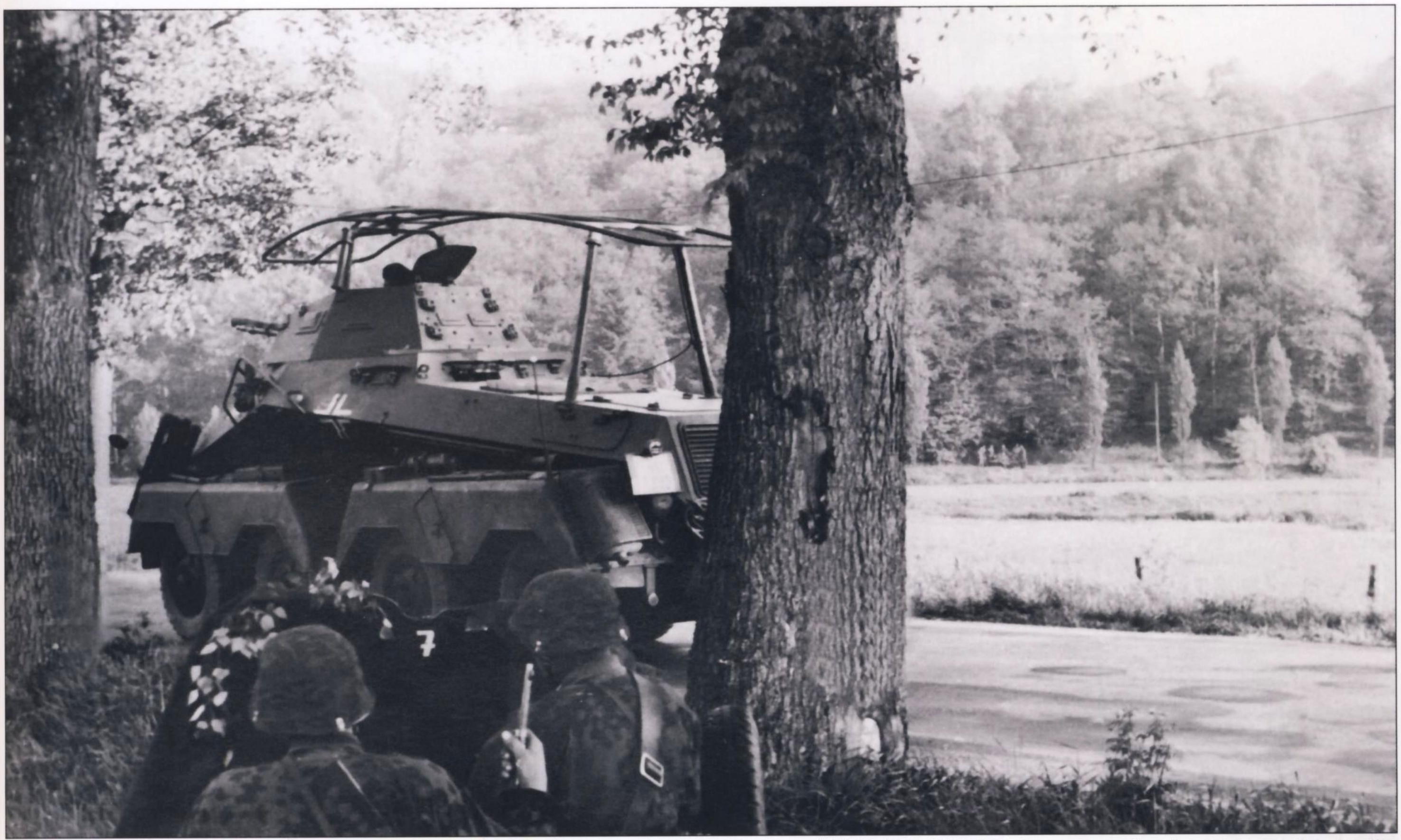
Enjoying the fine weather, the crew of a schwerer Panzerspähwagen (Fu) (Sd.Kfz.232) 8 Rad leisurely practices ferrying their armored car across a body of water within an industrial center. Note that the ferry is constructed on three large inflatable rubber rafts ("Großer Floßack") mounting a prefabricated bridging segment; this was a more-or-less standard configuration. Throwing reconnaissance assets across rivers in a timely fashion was one of the keys to the speed which characterized German operations early in the war. Such rapid movement constantly kept the enemy off-guard, denying him any opportunity to re-group his forces in a proper defensive posture.



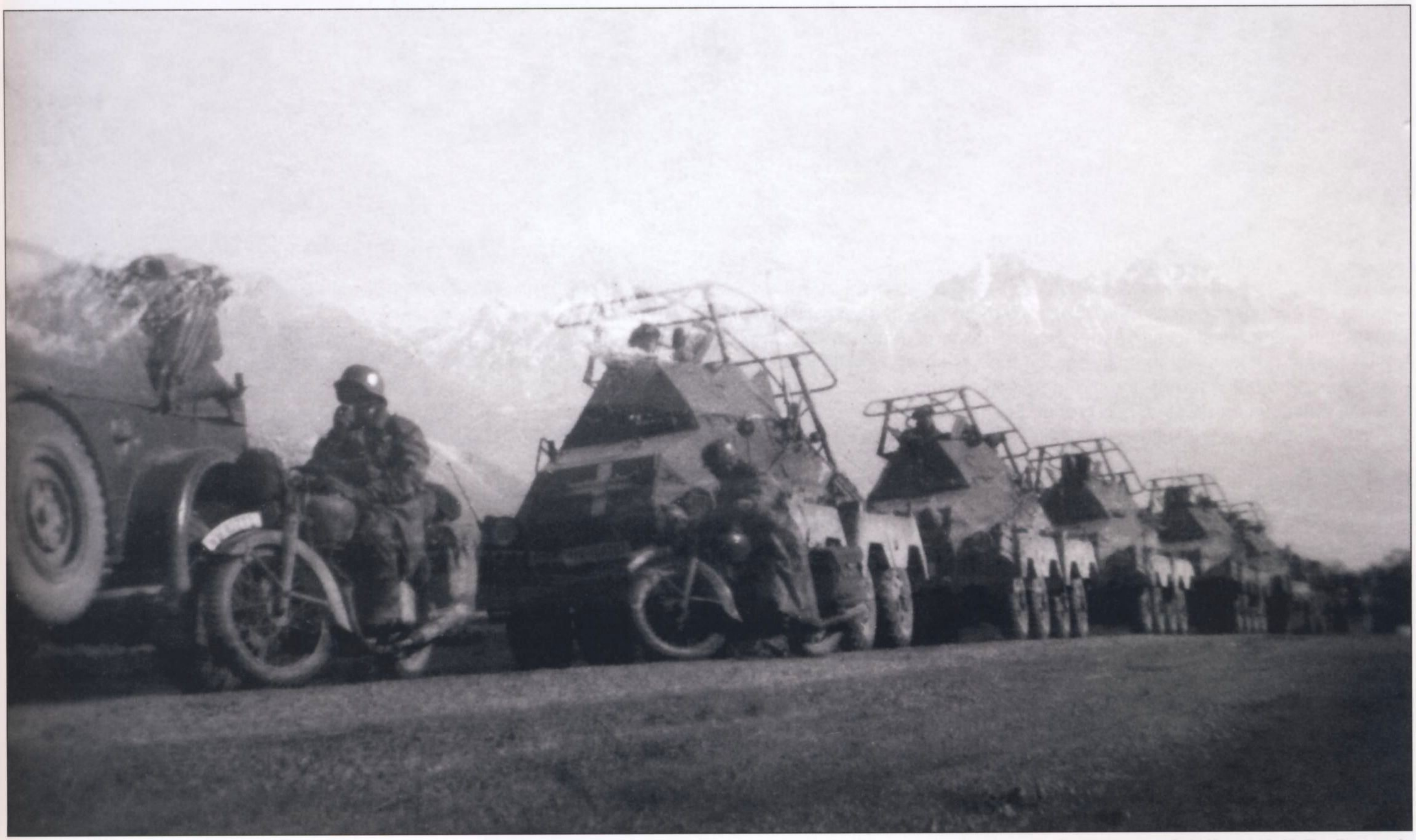


Seen during the Polish Campaign of 1939, this pair pf images depicts the same group of armored cars stranded on the banks of a river. The top image shows a leichter Panzerspähwagen (Fu) (Sd.Kfz.223) in the foreground on the riverbank, with a schwerer Panzerspähwagen (Sd.Kfz.231) 6 Rad in the water; it appears as if the vehicle further out is a leichter Panzerspähwagen (2cm) (Sd.Kfz.222). The bottom image is from a different angle, showing again both the Sd.Kfz.223 and Sd.Kfz.231. Bringing up the rear is a schwerer Panzerspähwagen (Fu) (Sd.Kfz.232) 8 Rad. All vehicles are marked with prominent solid white Balkenkreuze national insignia and there are names visible on some of them; unfortunately they are illegible. The bridge and the city in the background suggests that the location may be somewhere on the Vistula River, the internal economic and cultural lifeline of Poland.

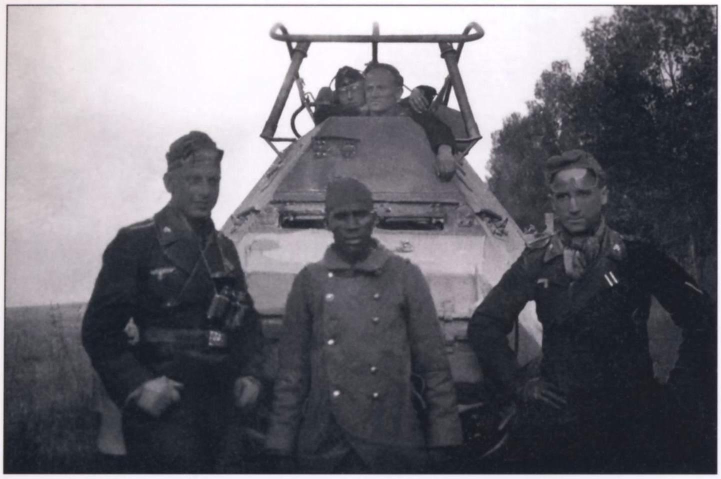




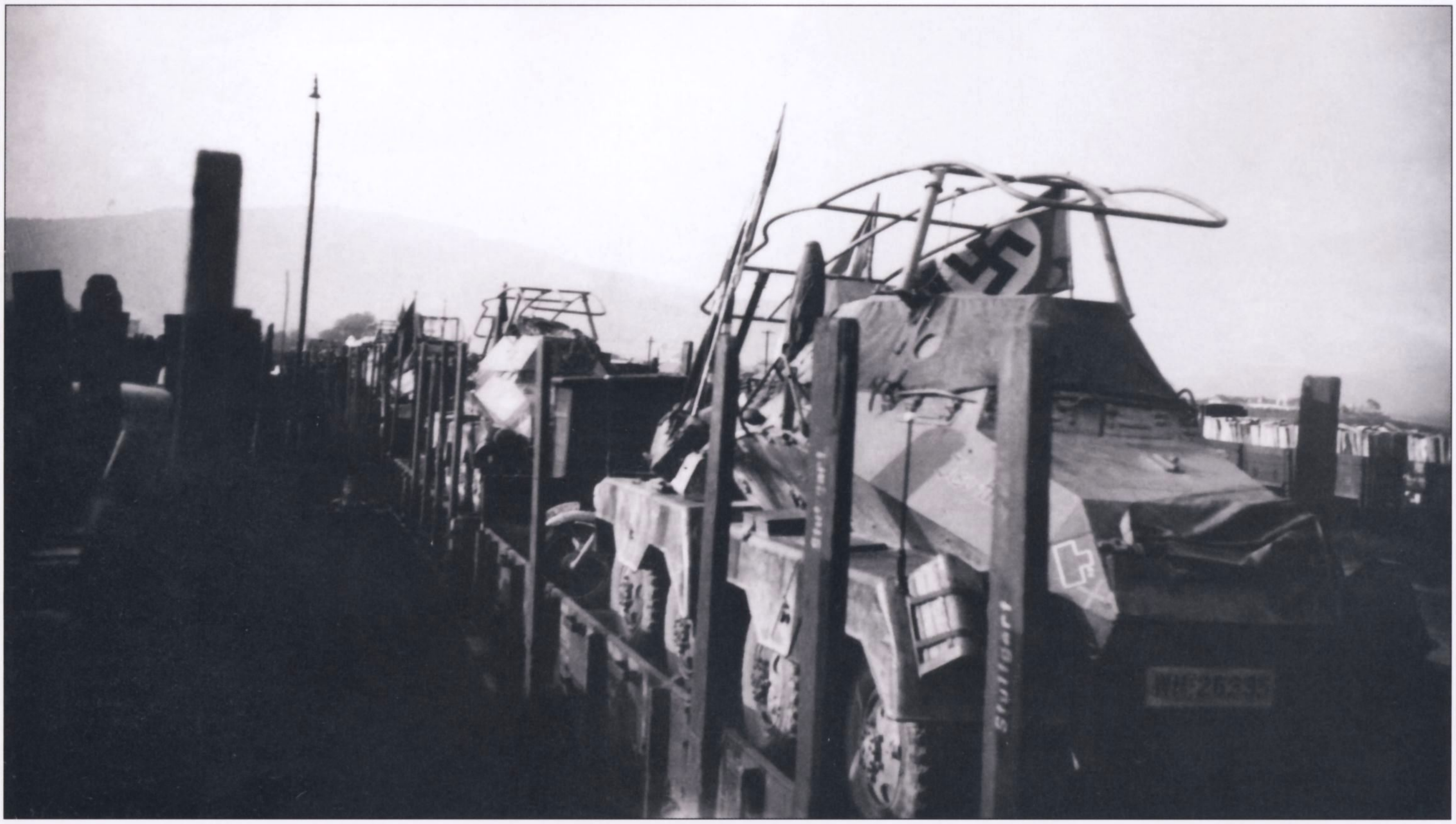
A pair of Waffen-SS gunners man their 3.7cm PaK35/36 as a schwerer Panzerspähwagen (Fu) (Sd.Kfz.232) 8 Rad moves cautiously along a road during the French Campaign of 1940. The vehicle's registration plate is illegible, while the Balkenkreuz national insignia seen mid-way along the superstructure sides is of the white-outline style, first seen in action during this time frame. The SS gunners are identified by their unique camouflage-patterned helmet covers and smocks, while their gun is marked with a number "7" in white on its inner shield. Note also the heavy leather straps worn across the men's backs; these were used to man-handle the guns short distances.



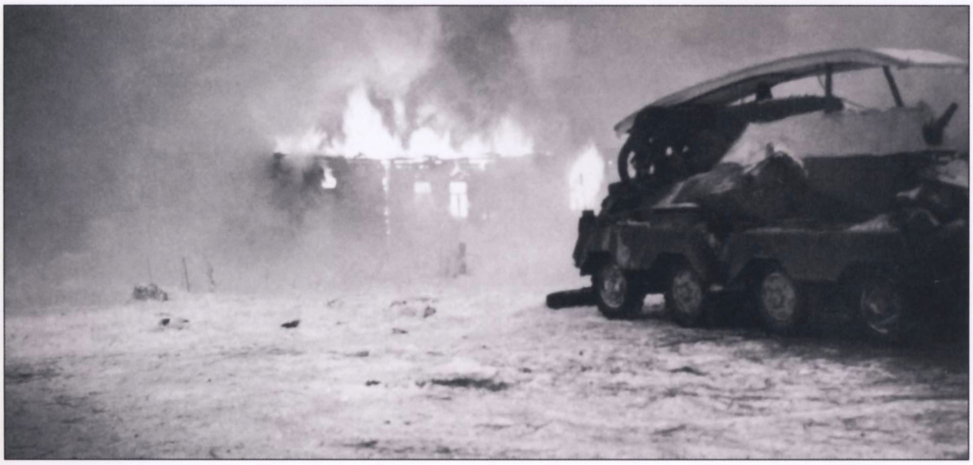
With the Tatra mountains of southern Poland looming in the distance, a column consisting of no less than five Panzerfunkwagen (Sd.Kfz.263) (8 Rad) stands idly by on a road. Note the solid white Balkenkruez national insignia on the lead armored radio car, painted over the stowed tools. Curiously, the man on the lead motorcycle wears his gas mask, perhaps as an antidote to road dust.



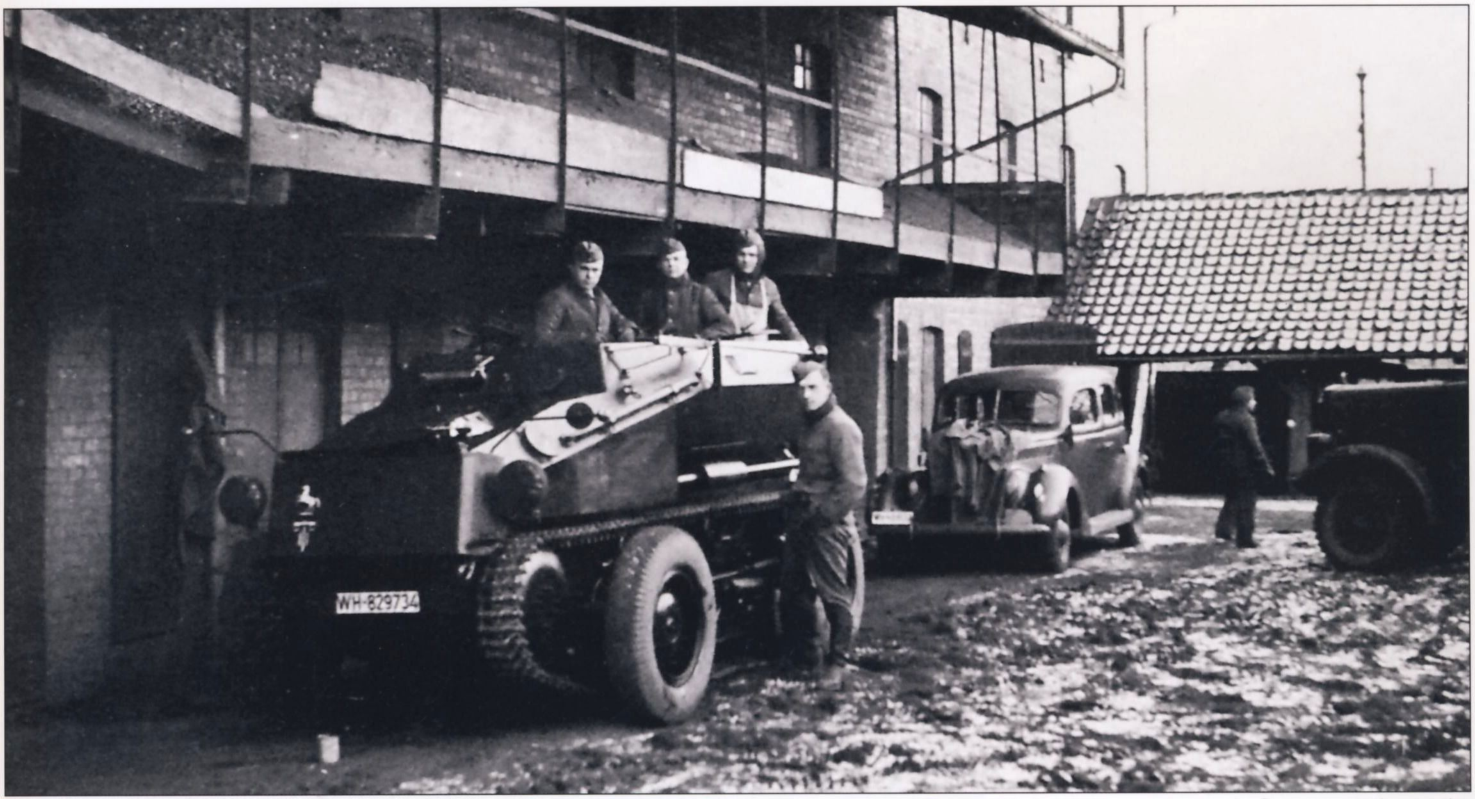
Back in France in 1940, several Germans, with their Panzerfunkwagen (Sd.Kfz.263) (8 Rad) as a back-drop, pose with a captured French African colonial trooper. One wonders what became of this man when considering German racial policies. The Sd.Kfz.263 exhibits some details, to include opened view-port flaps and the means by which the Rahmenantenne (frame antenna) was fixed to the forward part of the superstructure.



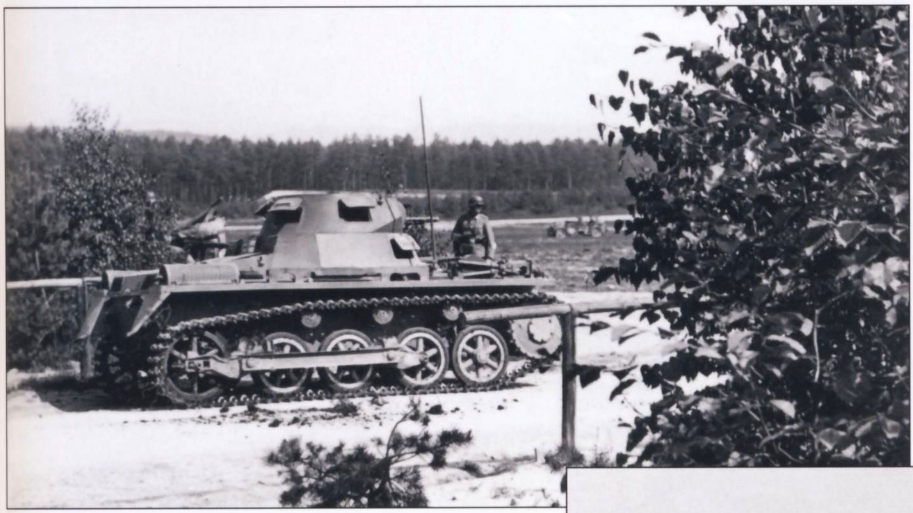
Several Panzerfunkwagen (Sd.Kfz.263) (8 Rad) heavy armored radio cars sit on rail wagons awaiting movement. Note the tarp fitted over the superstructure with its various openings placed so the vehicle's ports could still be used in a combat emergency. The Rahmenantenne (frame antenna) for this vehicle is similar to, but not identical to that seen on the schwerer Panzerspähwagen (Fu) (Sd.Kfz.232) 8 Rad. Its main differences were in the way it was mounted (there was no rotating turret) and in the addition of the curved section aft on the starboard side. The latter was there so that the "Kurbelmast" (telescoping antenna mast), when erected, had proper clearance. The vehicle is marked as belonging to the Nachrichtentruppe (communications or signals troop) of the 5.Panzer-Division; note the white tactical sign above the yellow "X" on the starboard side of the nose plate.



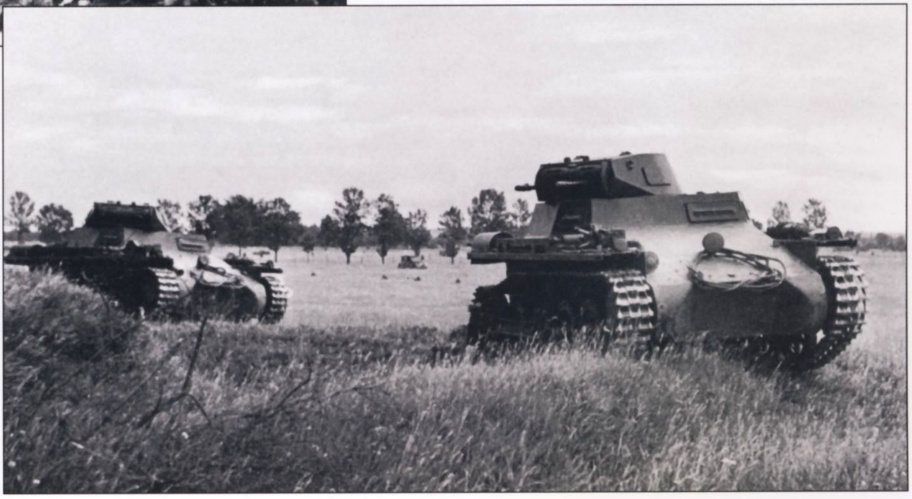
While a local structure burns furiously, a Panzerfunkwagen (Sd.Kfz.263) (8 Rad) stands ready for action. Note how a tarp has been erected over the entire Rahmenantenne (frame antenna) to provide some protection from the elements. It appears that among the items stored on the vehicle's rear deck is a light solo motorcycle. Note also the spare wheel and tire stowed on the superstructure roof plate and the electrical lead going up to the antenna.



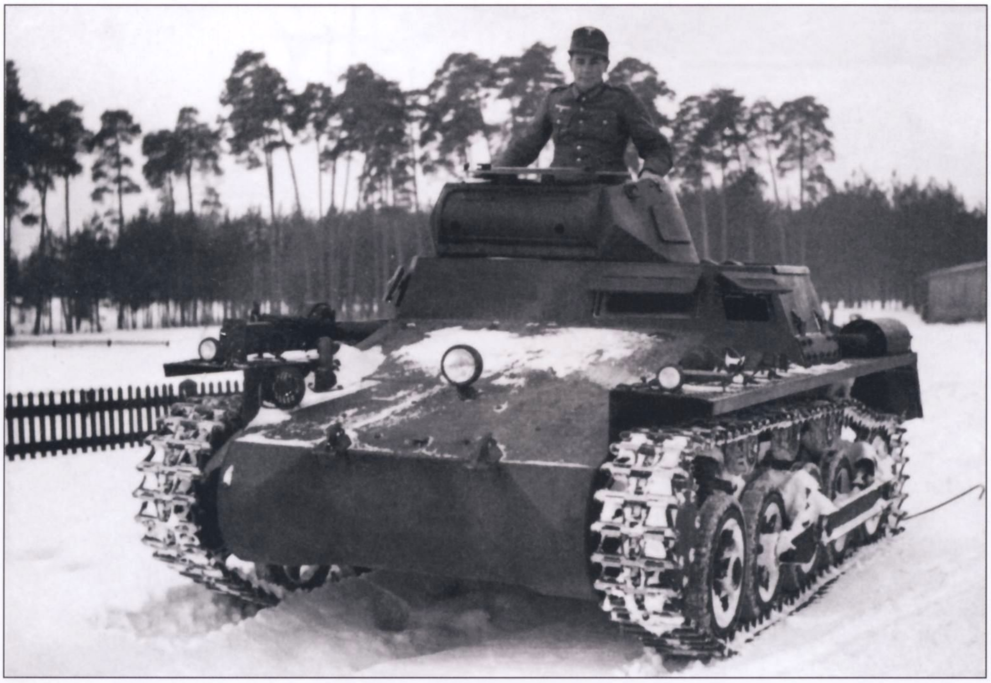
One of the more unique vehicles to see service under German arms was the Austrian-designed Saurer RK-7, which was known in German service as the mittlerer gepanzerter Artillerie-Beobachtungskraftwagen (Sd.Kfz.254), or medium armored artillery observation vehicle. As the lengthy designation implies, this vehicle was deployed with the artillery regiments of the Panzer divisions to allow for protected observation and correction of the fall of shot. This particular vehicle belongs to a division that was part of Panzer-Gruppe von Kleist, as denoted by the white letter "K" centered on the front of the superstructure plate. A tactical sign for a motorized artillery battery is seen painted in white on the lower starboard side of the bow plate; above it, also in white, is a rearing stallion. Unfortunately no divisional sign is visible; the registration plate, WH-829734 is clearly seen on the lower part of the bow. The vehicle could run at high speed on roads using conventional wheels (seen deployed here) or on more marginal terrain, the wheels were retracted upwards and it then ran on its tracks. This image was probably created during the French Campaign of 1940.



A dusty Pz.Kpfw.I Ausf.A rests on a range during pre-war exercises. Note the complete absence of any markings and the colored band on the steel helmet of the soldier in the background. The radio antenna has been extended and the wire cutters are stowed over the vehicle's jack.

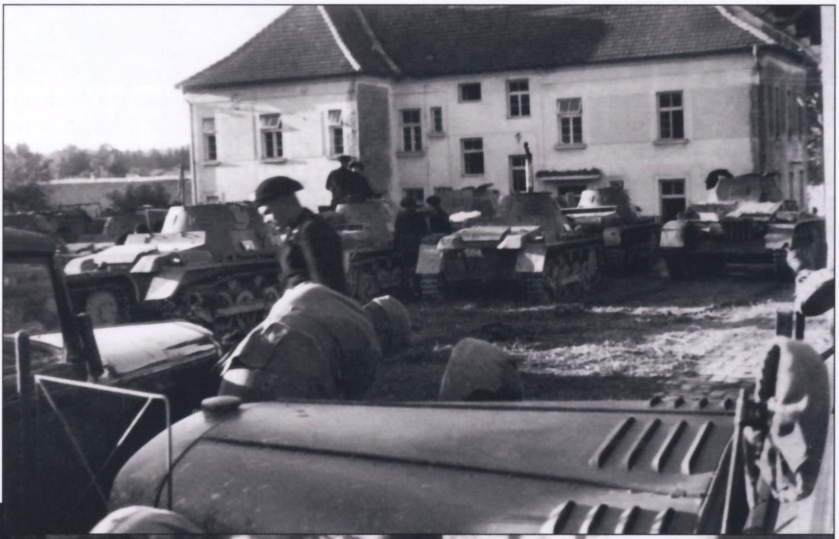


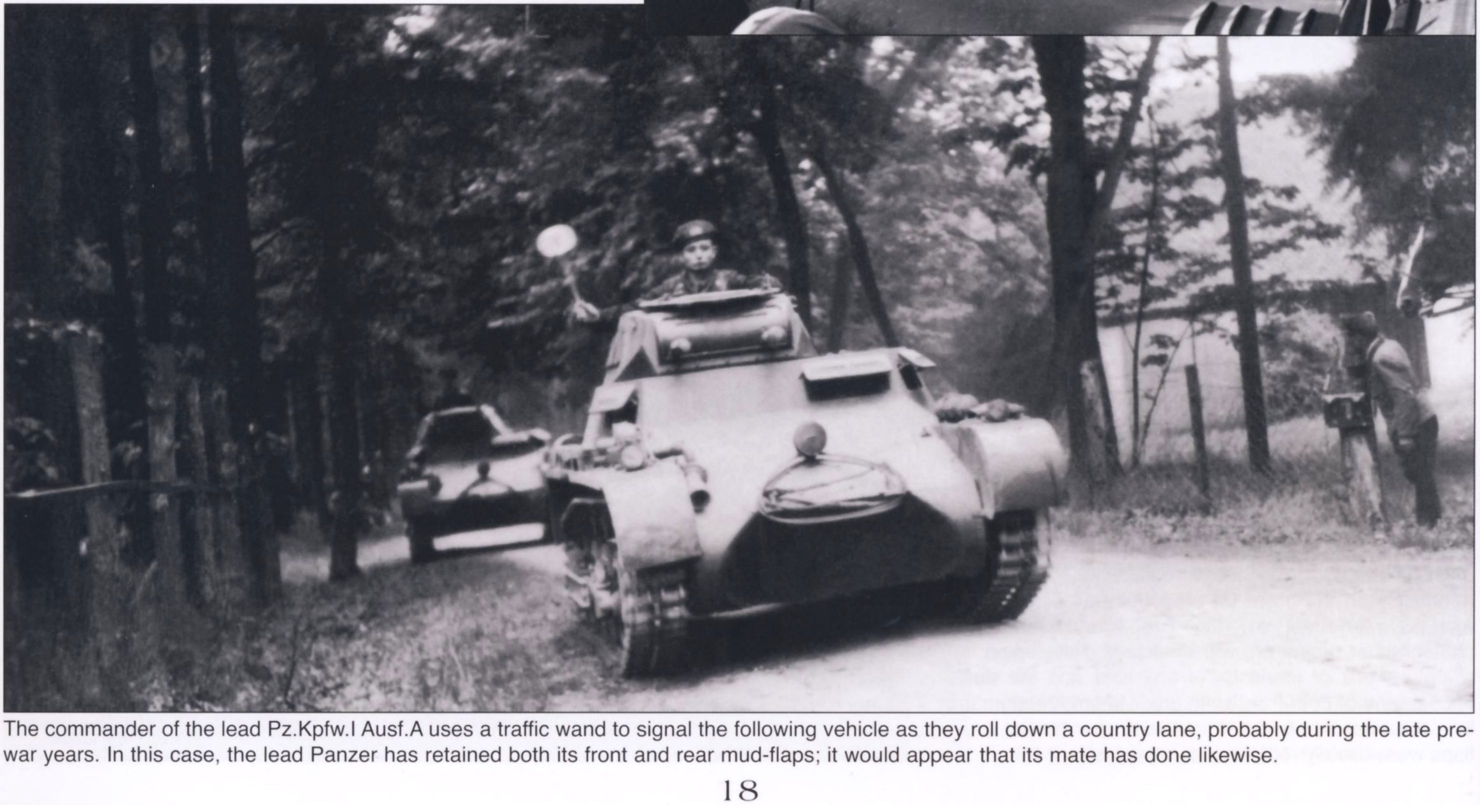
Seemingly on the prowl for prey, this pair of Pz.Kpfw.I Ausf.As maneuver for the Propaganda-Kompanie photographer during pre-war exercises. Note again the complete lack of markings of any kind and the dusty appearance of both Panzer. In order to prevent damage or a build-up of debris, the front and rear hinged mud-flaps were usually removed, as seen here.



The crew of this Pz.Kpfw.I Ausf.A has removed the pair of MG13k machine-guns from their mounts in the turret, prior to taking their vehicle out for a ride in the snow. Another identifying feature of the Ausf.A was the mounting of the exhaust mufflers, one on each rear track-guard. In this case, the crew has removed the front mud-flaps, while retaining those at the rear. No markings are visible on this Panzer in this pre-war image.

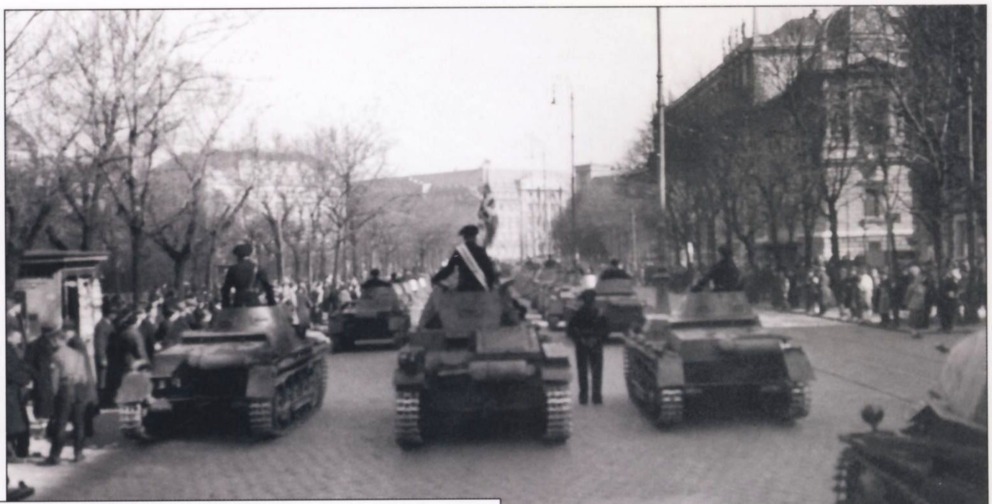
Using the cover of a large civilian structure to restrict enemy observation, a group of leichter Panzer, as well as several wheeled vehicles, perform a maintenance check. Any well-trained crew of an AFV or a tactical support vehicle, will always see to the care of their mount, before themselves. This harkens back to the tradition of the horse cavalry, where the horse was fed and groomed before the man. The AFVs are Pz.Kpfw.I Ausf.As (two, or possibly three of them at left); a single Ausf.B sits between the two Pz.Kpfw.IIs of indeterminate model. No markings of any kind are seen in what is again a pre-war image.

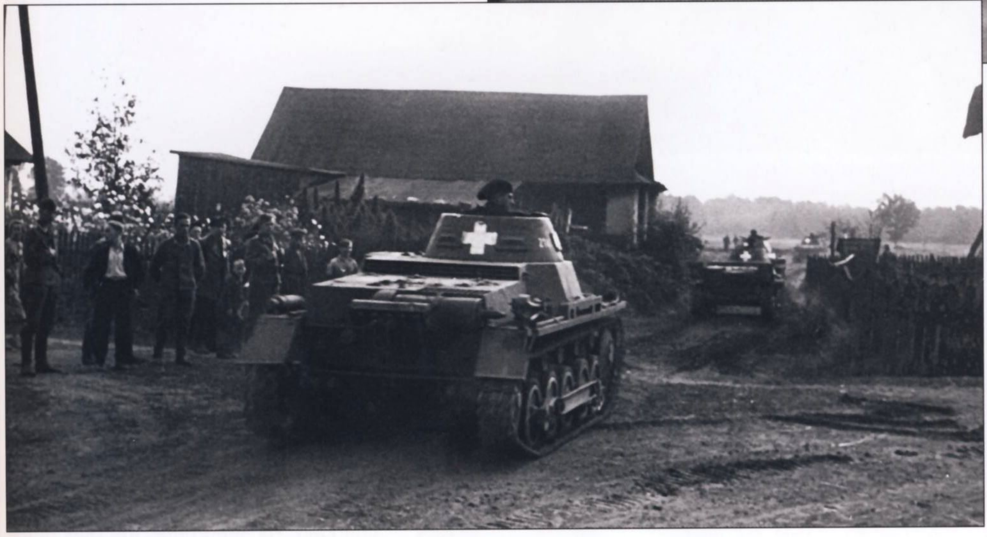




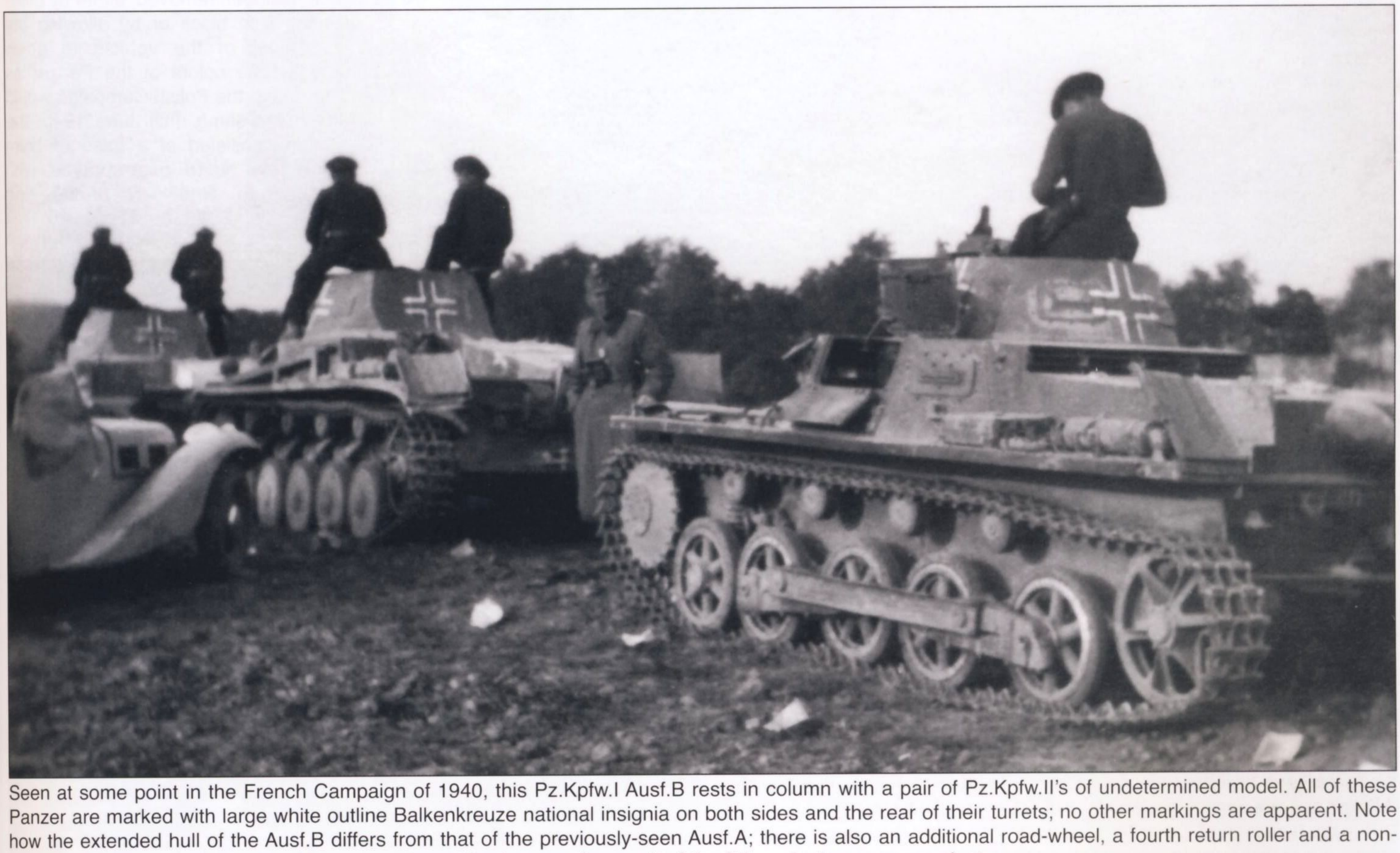
The commander of the lead Pz.Kpfw.I Ausf.A uses a traffic wand to signal the following vehicle as they roll down a country lane, probably during the late pre-war years. In this case, the lead Panzer has retained both its front and rear mud-flaps; it would appear that its mate has done likewise.

Three parallel columns of German Panzer form up for a parade. The two flanking columns consist of Pz.Kpfw.I Ausf.Bs, which are identified from this angle by the single transversely-mounted exhaust muffler on their hull's rear plates. The center Panzer is a Pz.Kpfw.II of indeterminate model. Note that there are no visible markings whatsoever on any Panzer and that the crews wear their M1935 special uniforms for armored vehicle crewmen, complete with berets and Sam Browne belts.

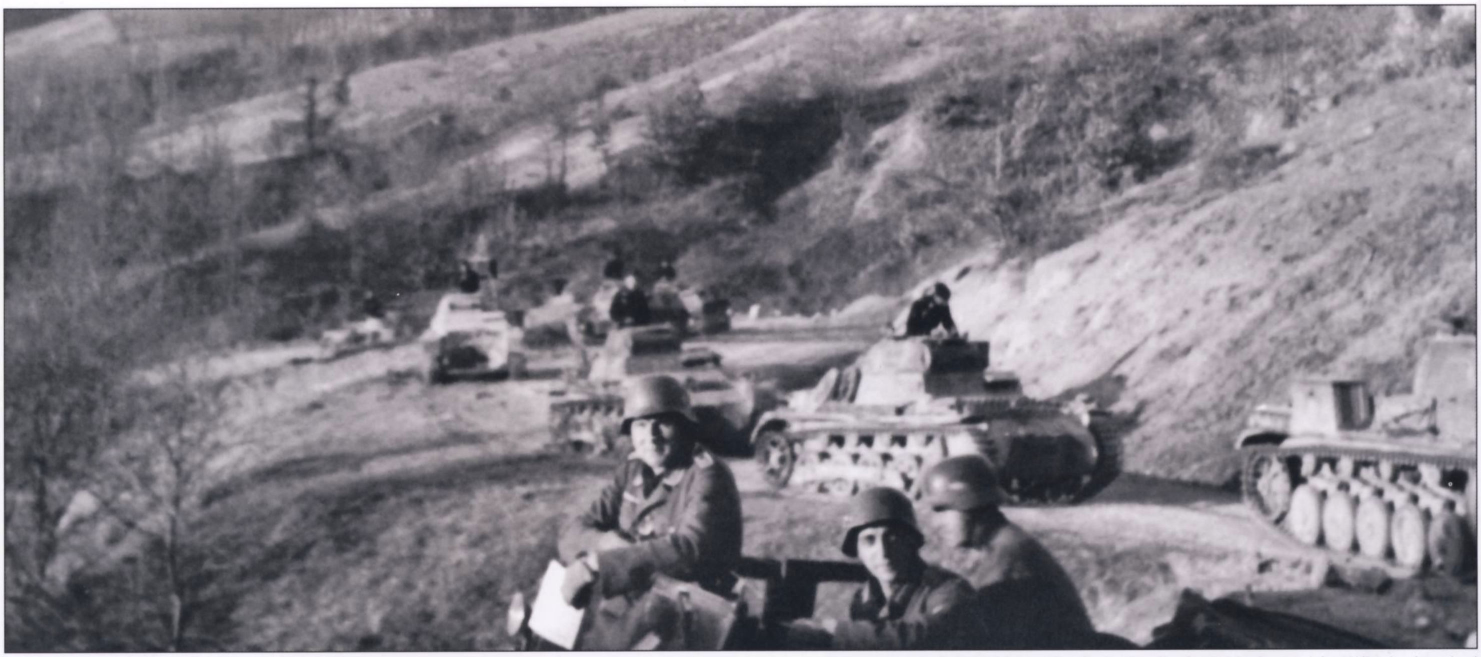




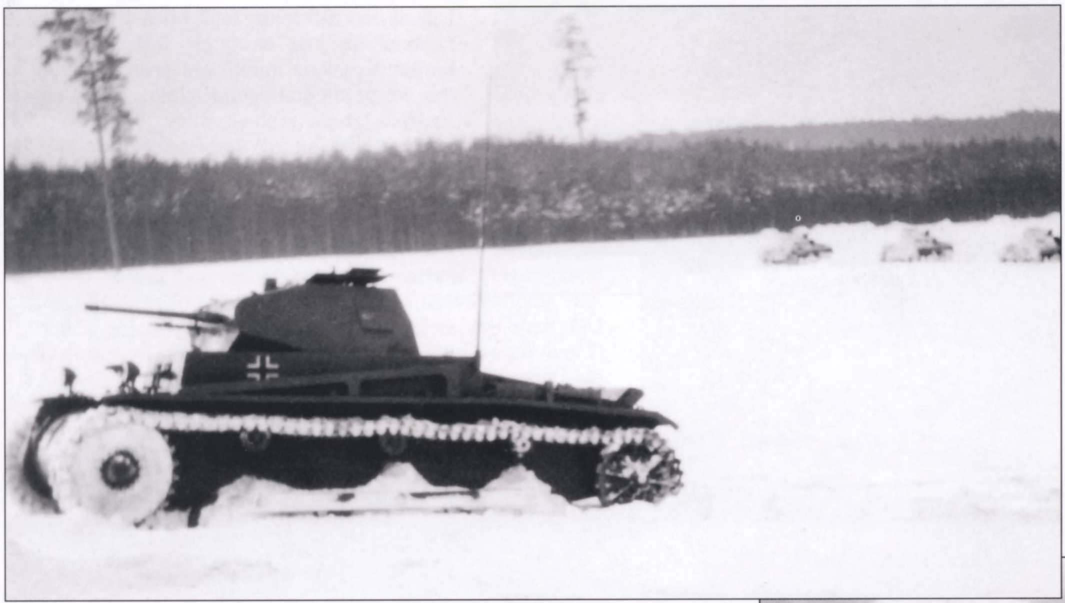
Curious Polish citizens watch as a column of Pz.Kpfw.I Ausf.Bs pass through their village during the "Fall Weiss" (Case White) campaign of September 1939. The Panzer wear the typically-conspicuous solid white Balkenkreuze national insignia on three surfaces of their turrets; usually a fourth was seen centered on the front superstructure plate. The nearest Pz.Kpfw.I has a small white, three-digit Tac number just aft of the Balkenkreuz on the turret's side, while all visible Panzer mount Nebelkerzenabwurfvorrichtung (rack to deploy smoke candles) over their engine exhaust mufflers.



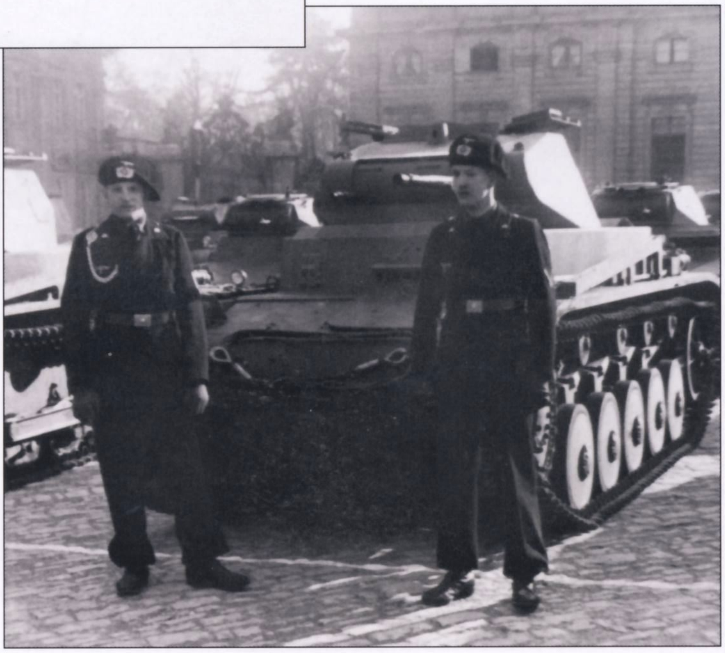
Seen at some point in the French Campaign of 1940, this Pz.Kpfw.I Ausf.B rests in column with a pair of Pz.Kpfw.II's of undetermined model. All of these Panzer are marked with large white outline Balkenkreuze national insignia on both sides and the rear of their turrets; no other markings are apparent. Note how the extended hull of the Ausf.B differs from that of the previously-seen Ausf.A; there is also an additional road-wheel, a fourth return roller and a non-trailing idler wheel on each side. This external modification was the result of the fitting of a larger power plant.



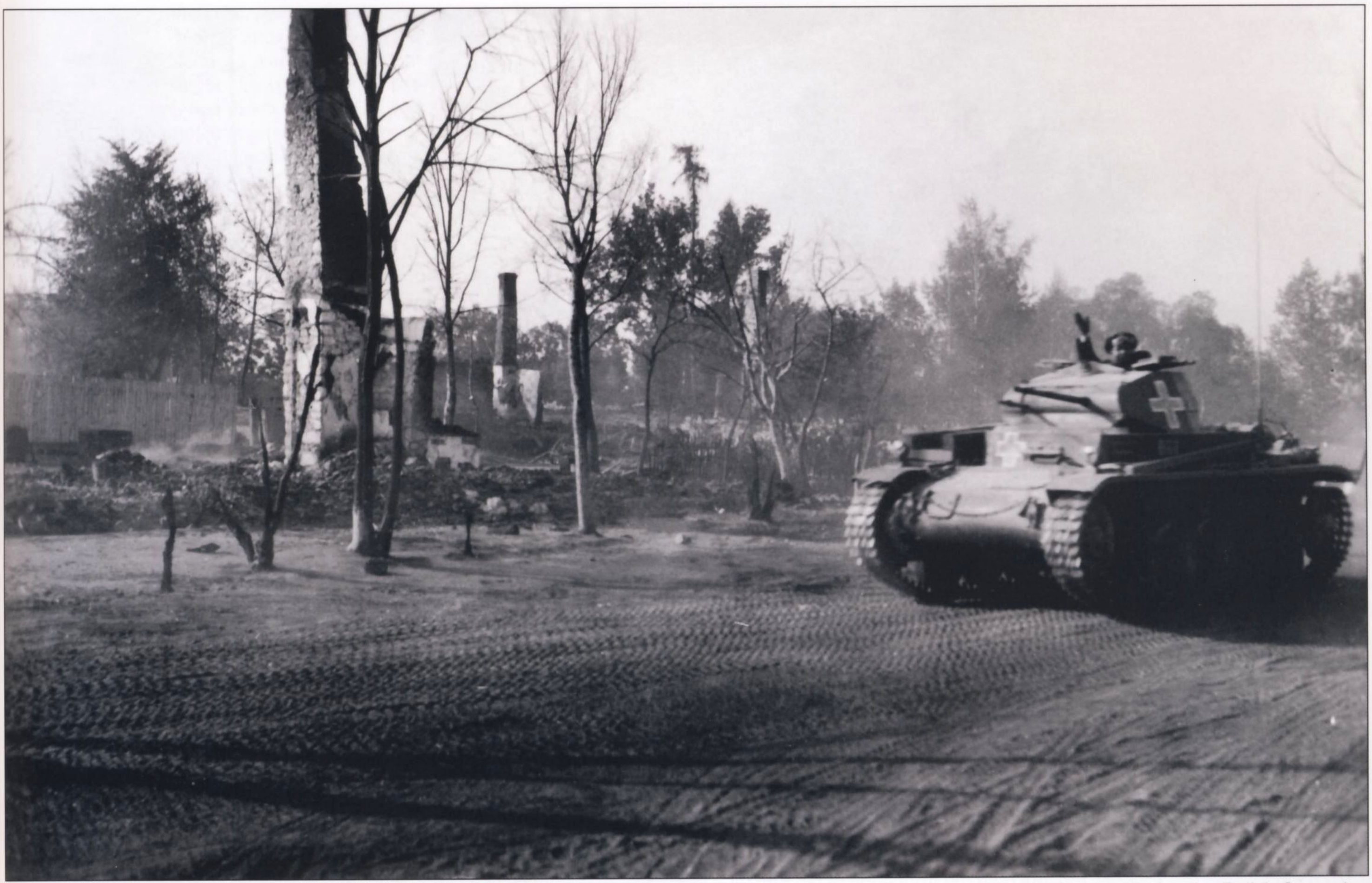
A column of German Panzer winds its way along twisted mountain roads, probably during the campaign in Yugoslavia in April of 1941. An unidentified wheeled vehicle is followed by a Pz.Kpfw.II, which is in turn followed by a number of Pz.Kpfw.I Ausf.Bs. The latter are identified by their four return rollers and raised idler wheel. The lead Pz.Kpfw.I has spare track lengths as well as spare road-wheels strategically placed around the glacis and superstructure and its forward mud-flaps have been removed. All vehicles have a thick coating of dust and there are no markings visible.



Probably photographed during the winter of 1939-1940, this Pz.Kpfw.II Ausf.a/2, a/3 or b moves through some relatively deep snow. Almost immediately after the end of the campaign in Poland, the Balkenkreuz national insignia was ordered to be changed. As seen here, the bulk of the white has been removed, either by over-painting with black or by allowing the base color of the vehicle to show through. The colors of the Panzer as seen during the Polish Campaign would remain the same until June 1940; the scheme consisted of a base of color Dunkelgrau Nr.46 over-sprayed with Dunkelbraun Nr.45 in bands and patches.

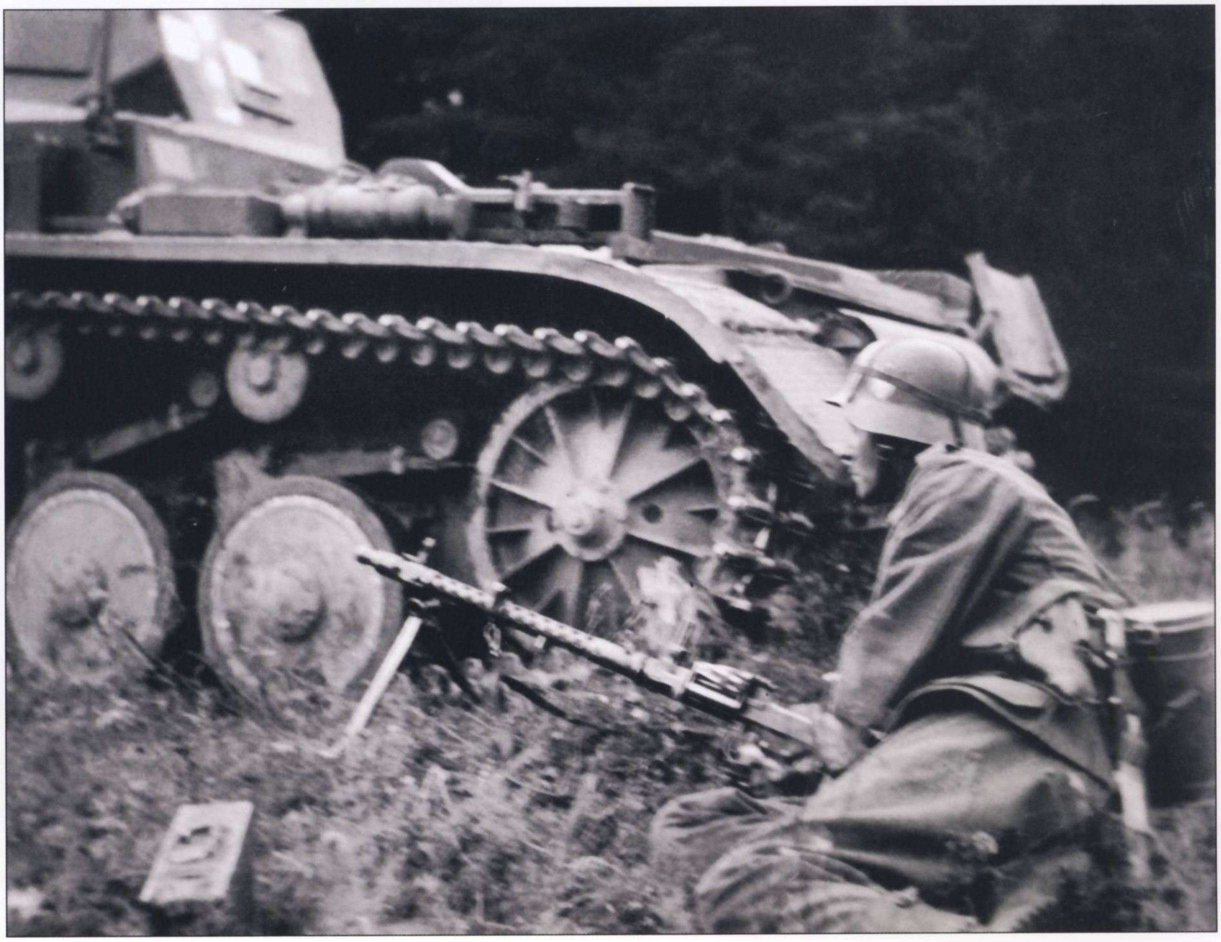


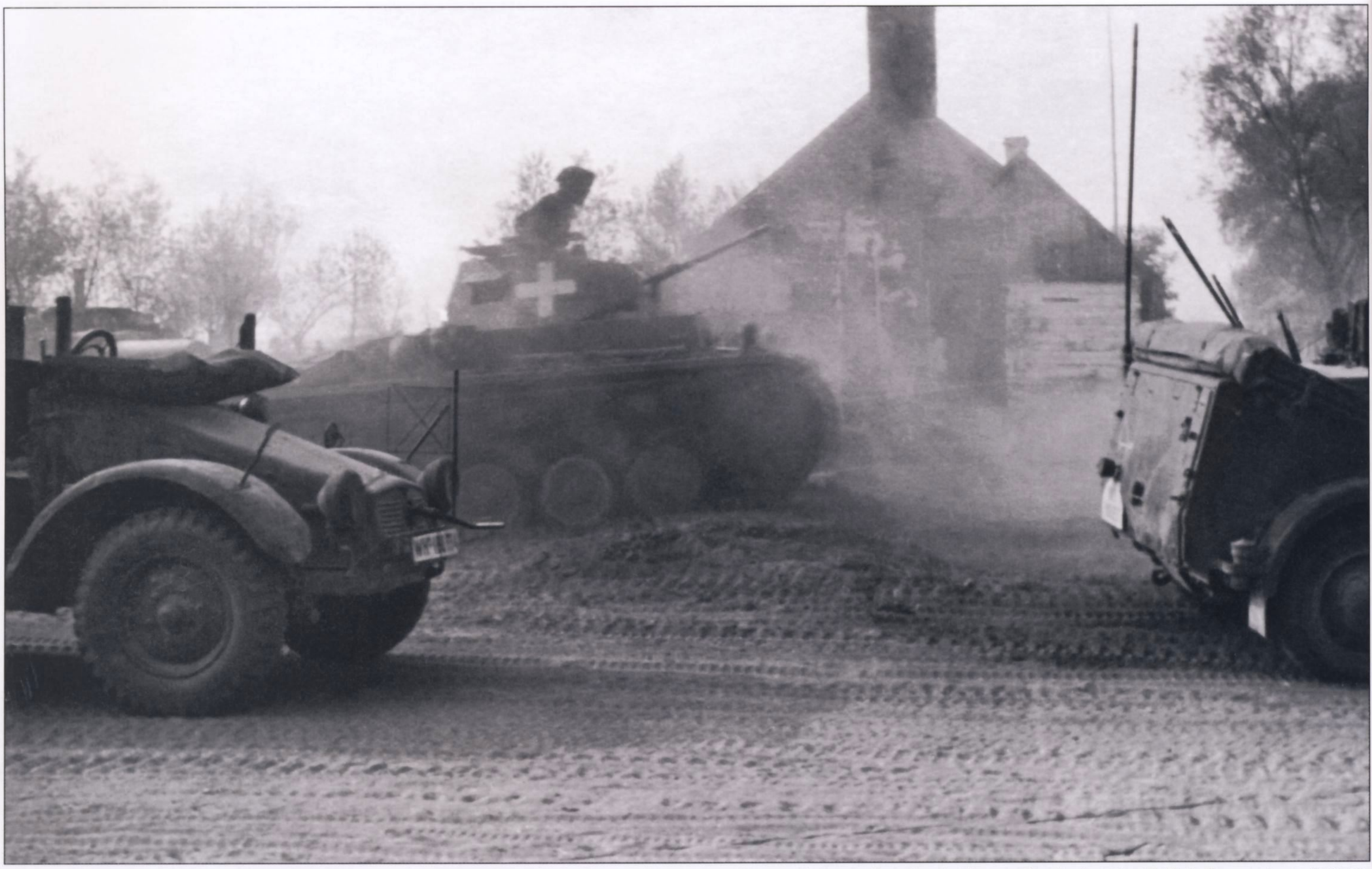
A pair of Panzer crewmen stands at ease in front of a Pz.Kpfw.II Ausf.A, B or C during an inspection, or possibly prior to a parade. That they are wearing the large beret and their mount displays no visible markings, may indicate that this is a pre-war image. The Pz.Kpfw.II is identified as an Ausf.A, B or C by the configuration of the driver's view-port flap, while the Panzer to the left shows the earlier suspension configuration seen on the Ausf.a or b.



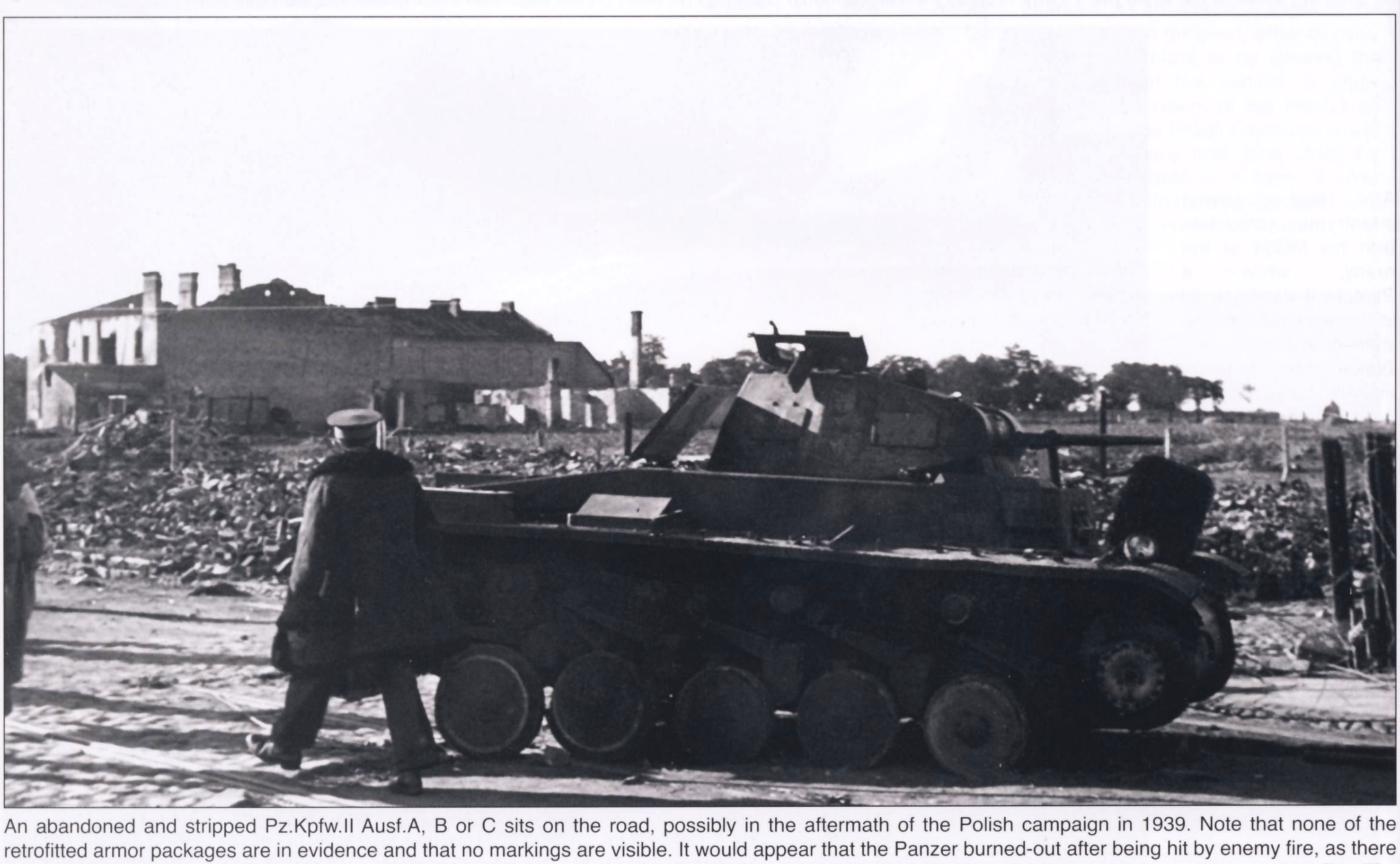
The commander of this fast-moving Pz.Kpfw.II Ausf.A, B or C waves to the cameraman as his Panzer passes a ruined structure, during the Polish Campaign of 1939. The crew has taken steps to subdue the conspicuous all-white Balkenkreuze national insignia by filling in most of the center with a darker color or by scraping some of the white paint away. A small Panzer rhomboid plate can be seen on the near-side track-guard; it appears to read “602” or “603”.

A Heer (army) infantryman crouches with his MG34 at the ready, while a Pz.Kpfw.II stands ready in the background. The white-outline Balkenkreuz national insignia seen on the turret rear has had the number “8” superimposed upon it, while a Panzer rhomboid with an indecipherable company number can also be seen on the rear face of the superstructure. Note that one of the rear mud-flaps is folded up, while the other is folded down; details of the vehicle’s jack and the location of the fire extinguisher can also be seen in this photograph from the Polish Campaign in 1939.



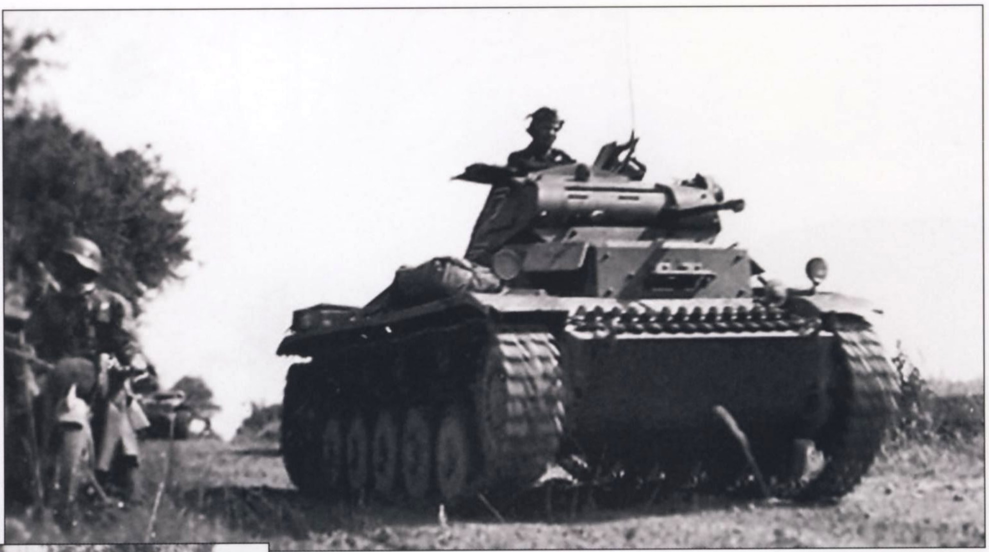


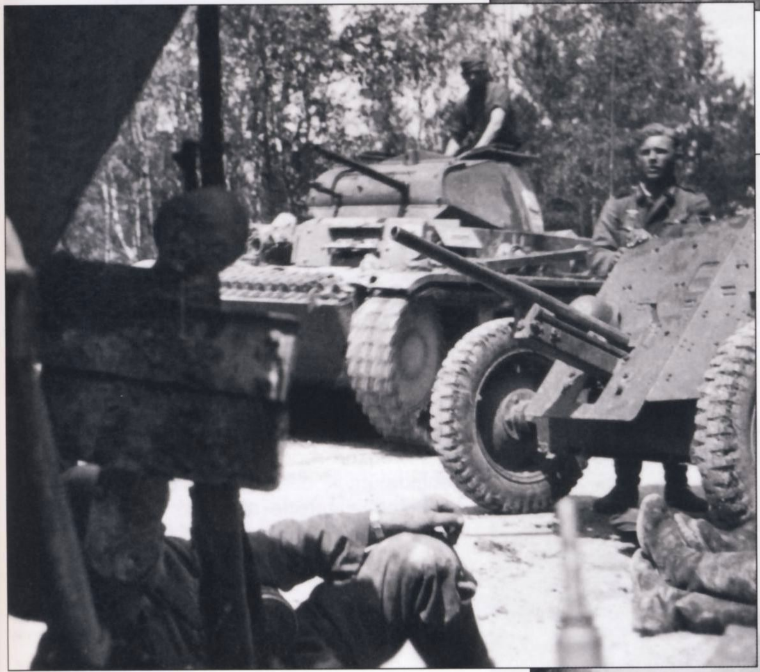
The commander of this Pz.Kpfw.II peers over the front edge of his Panzer's turret as it negotiates a tiny rise in the earth, during the Polish Campaign of 1939. Note the solid white Balkenkreuz on the turret side wall and the commander's padded beret, all typical of the era. At left in the foreground, the Krupp L2H143 light truck has the inertia starter crank fitted, indicating some sort of problem. At right is a light field car of indeterminate make and model.



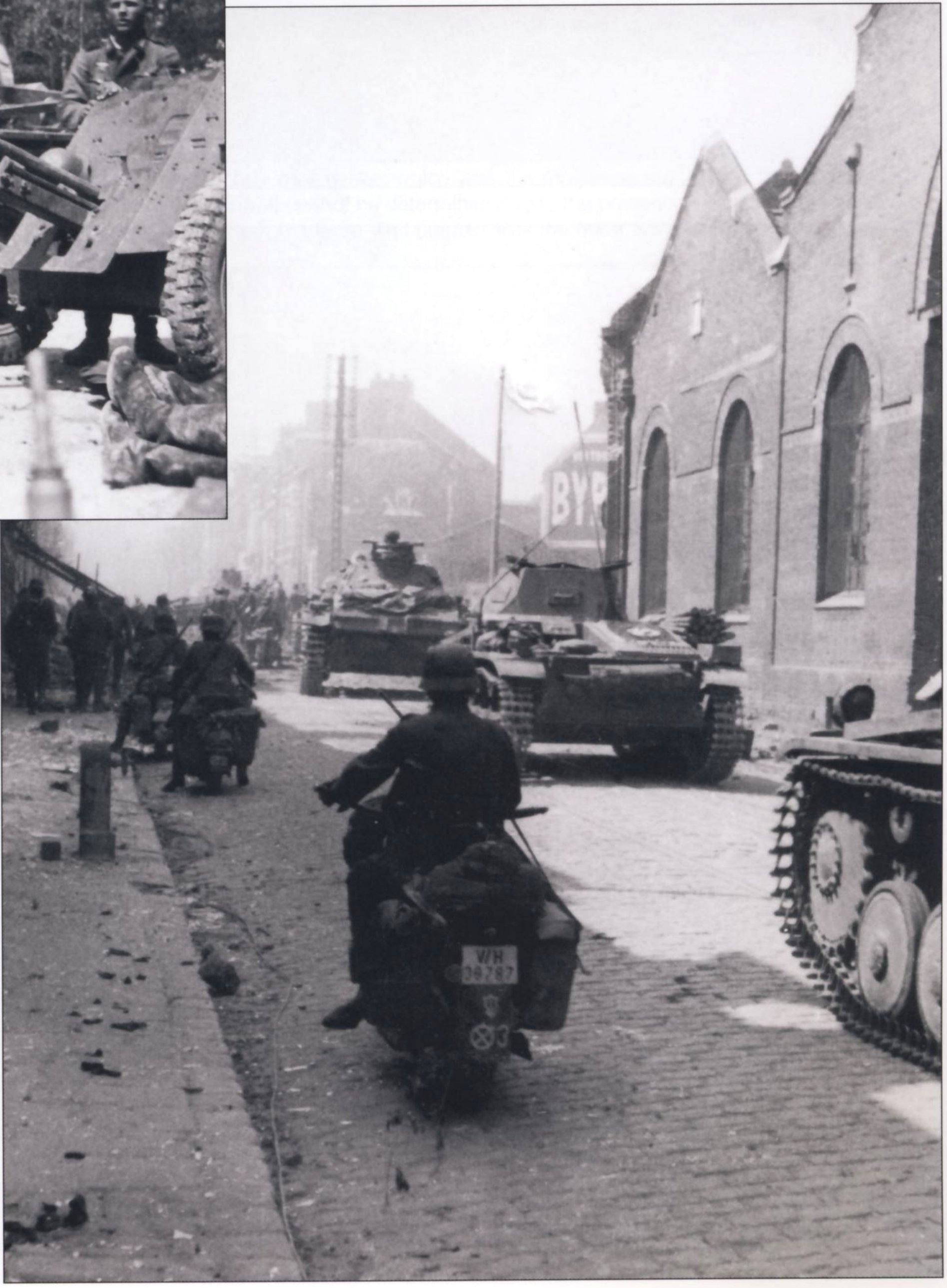
An abandoned and stripped Pz.Kpfw.II Ausf.A, B or C sits on the road, possibly in the aftermath of the Polish campaign in 1939. Note that none of the retrofitted armor packages are in evidence and that no markings are visible. It would appear that the Panzer burned-out after being hit by enemy fire, as there seems to be no rubber on the front three road-wheels; this may also account for the lack of markings as they may have also been consumed by fire. The man walking past the Panzer adds a bit of a puzzle to the image as his cap and the fur collar on his coat are not typical for either the German or Polish army.

Seen during the French Campaign of 1940, this Pz.Kpfw.II Ausf.A, B or C shows some of the modifications introduced as a result of combat experience the year before in Poland. The superstructure front has been retrofitted with 20mm Panzer-Frontplattenverstärkung (armor front plate strengthening), and the turret front has been up-armored with a curved 20mm plate. In addition, the bow has been boxed-in with 15mm on the glacis and 20mm across the front. The turret probably has a full three-digit Tac number, but only the last number, a "2" is visible. Although authorized for fitting long before the beginning of the battles of 1940, this leichter Panzer still has not been fitted with a Notek black-out driving head-lamp.

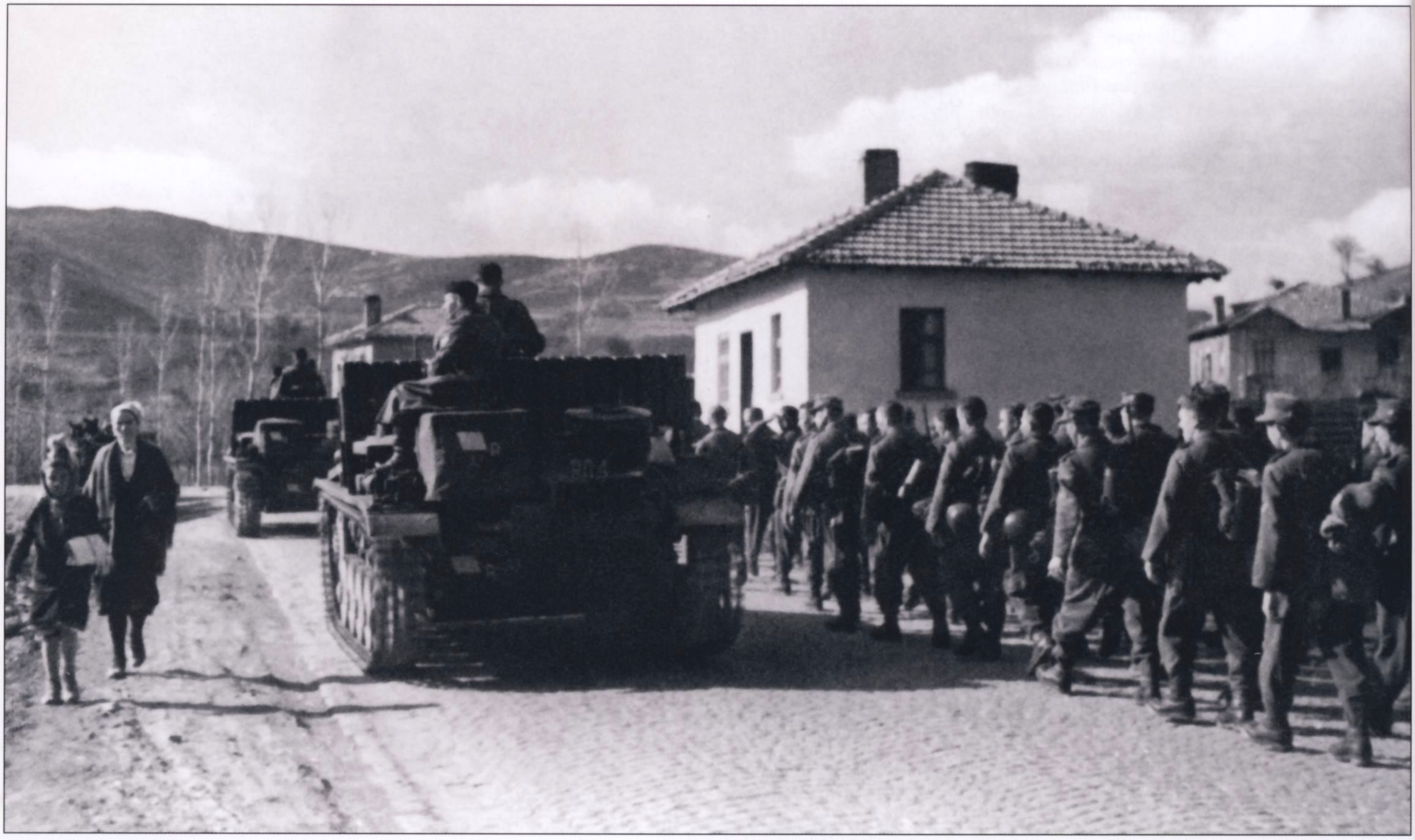




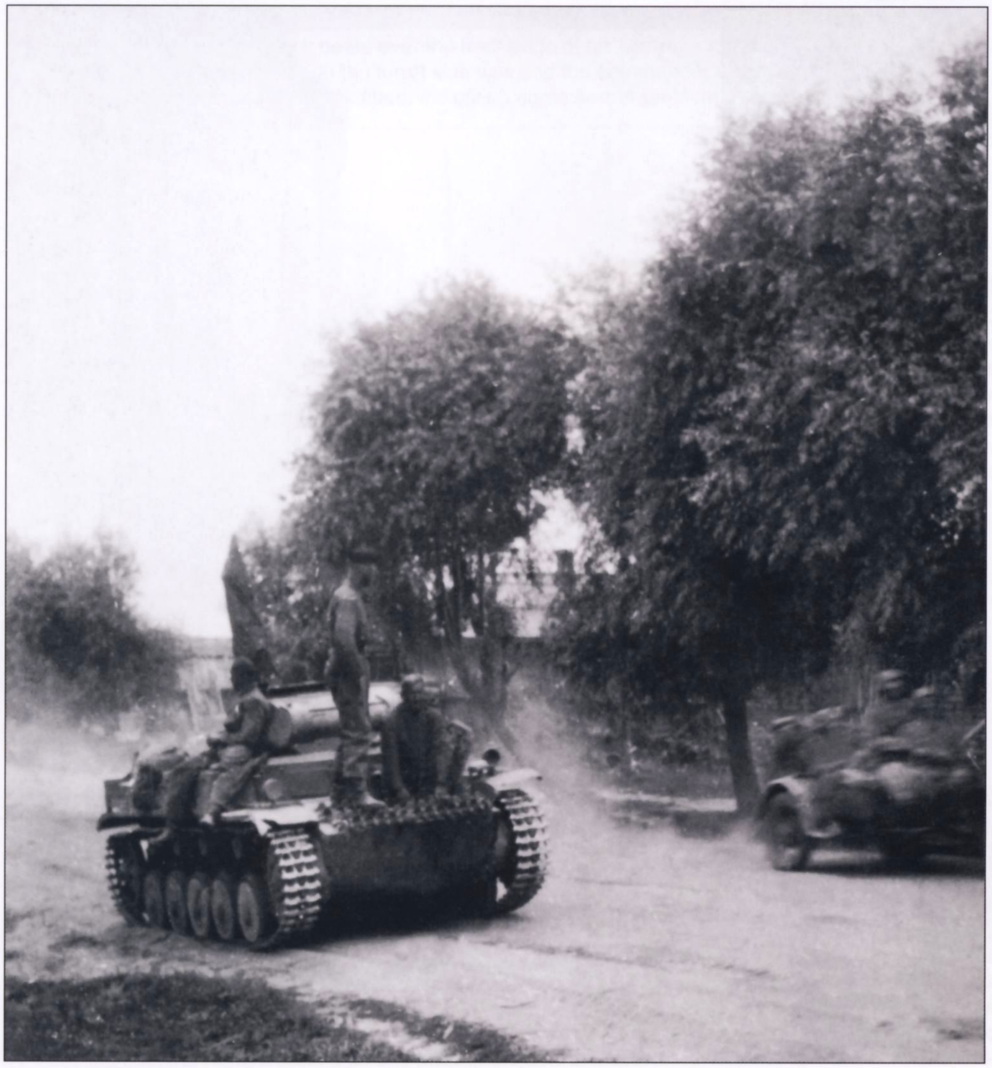
This busy image depicts a Pz.Kpfw.II Ausf.A, B or C passing a 3.7cm PaK35/36, most likely during the 1940 campaign in the west. The turret and superstructure front plates have been fitted with 20mm Panzer-Frontplattenverstärkung (armor front plate strengthening), while the originally curved bow plate has been boxed-in with 15mm upper and 20mm front plates. The only visible marking on the Panzer is a white-outline Balkenkreuz national insignia, seen on the superstructure side plate, behind the rod antenna stowage trough.



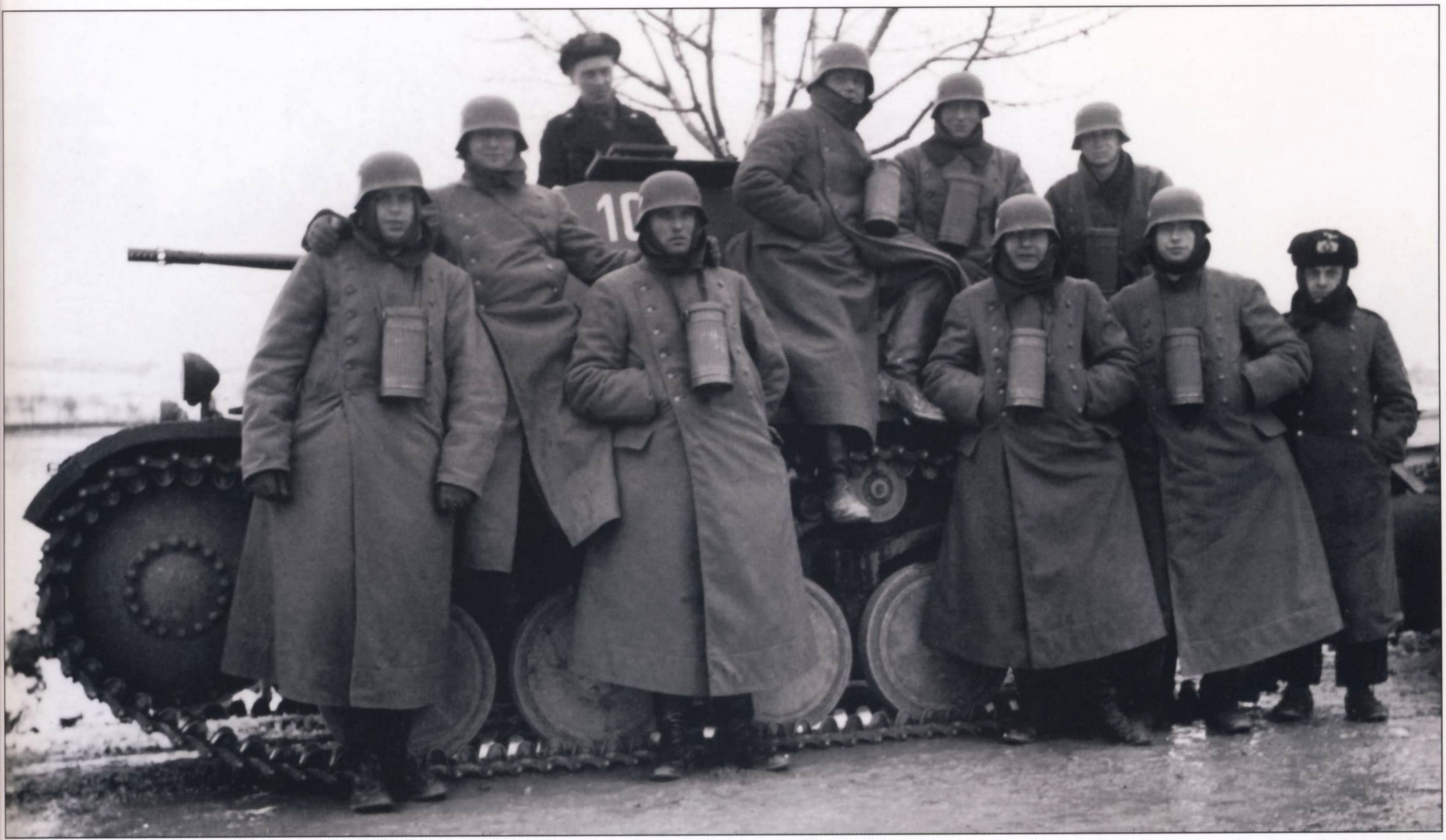
A Pz.Kpfw.III of indeterminate model leads a pair of Pz.Kpfw.IIs down a damaged French street during the 1940 campaign. The lead Pz.Kpfw.II shows several interesting details to include a bundle of fascines on the starboard rear track-guard, a Nazi flag on the engine deck as an aerial recognition device and a damaged (bent) rod antenna. No markings are visible; however the solo motorcycle in the foreground carries a full set of markings on its rear fender. These include the oak leaf insignia of 1.Panzer-Division, a tactical sign for a motorcycle reconnaissance unit featuring a large number "3", and a registration plate, WH-39787. Therefore it can be safely surmised that the Panzer belong to 1.Panzer-Division.



This pair of Pz.Kpfw.IIs of indeterminate model exhibit quite a bit of "standardized" extra stowage, with the near leichter Panzer displaying an interesting set of markings. Note the Panzer rhomboid plate attached to the engine deck bearing the legend "R04"; this denotes a vehicle attached to the command element of the Panzer Regiment. There are a pair of white Panzer rhomboids painted on the hull's rear plate and the stowage bin on the port side of the engine deck; in addition, a second "R" is also seen next to both of them. Finally, what appears to be the insignia of the 2.Panzer-Division, an inverted "Y" with a single vertical stroke can just be seen on the stowage bin. The architecture, terrain, and the unit marking suggests the Balkans or Greece in the spring of 1941.

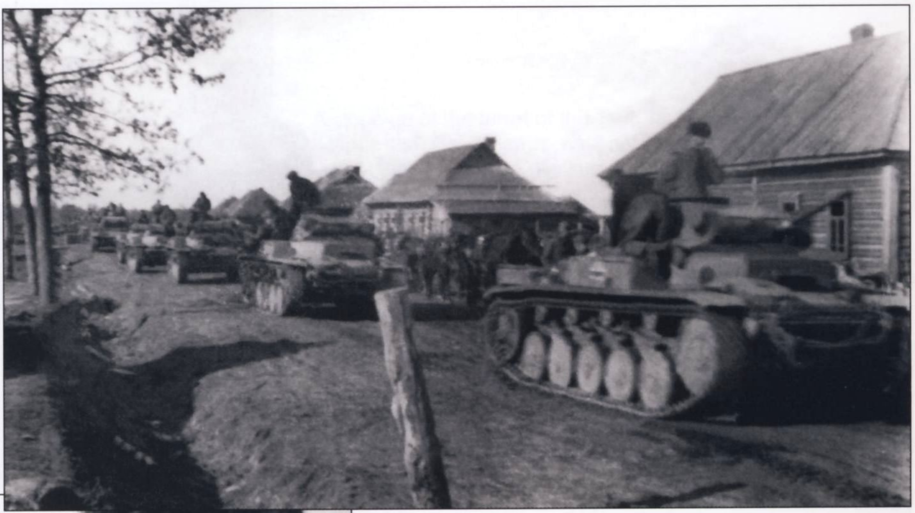


Festooned with Red Army soldiers (quite probably as a "protective measure"), this Pz.Kpfw.II of indeterminate model, seen on the Ostfront in 1941, has been given all of the modifications called for as a result of the campaign in Poland two years before. These include turret and superstructure front plates with 20mm Panzer-Frontplattenverstärkung (armor front plate strengthening) and 15/20mm on the bow. The commander has been given a Winkelspiegelaufsätzen (cupola with periscopes) on the turret roof and the prescribed Gepäckkasten (baggage bin) has been mounted on the track-guard. The final retrofitted item is the Notek Tarnscheinwerfer (black-out driving head-lamp) fitted to the port-side track-guard.

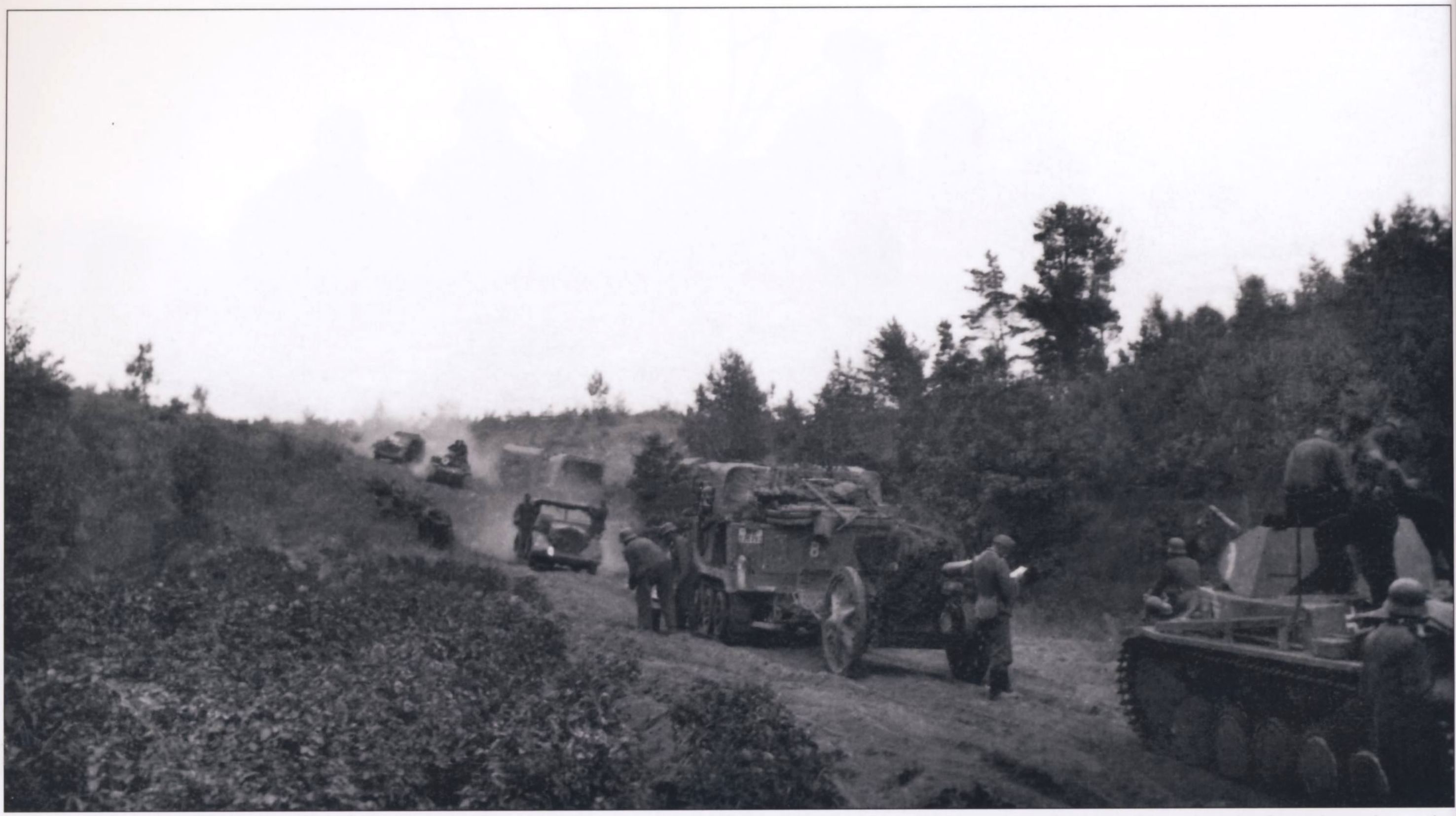


Draped with motorized infantrymen (note the peculiar way in which they wear their gas-masks, which was the regulation manner for those who sat in a vehicle), two Panzer crew-men pose for a photograph. The precise model of Pz.Kpfw.II cannot be determined due to the presence of so many men obscuring the salient features. Part of a Tac number, "10" is seen on the turret side wall; although a three-digit number was the norm, some units only used two digits.

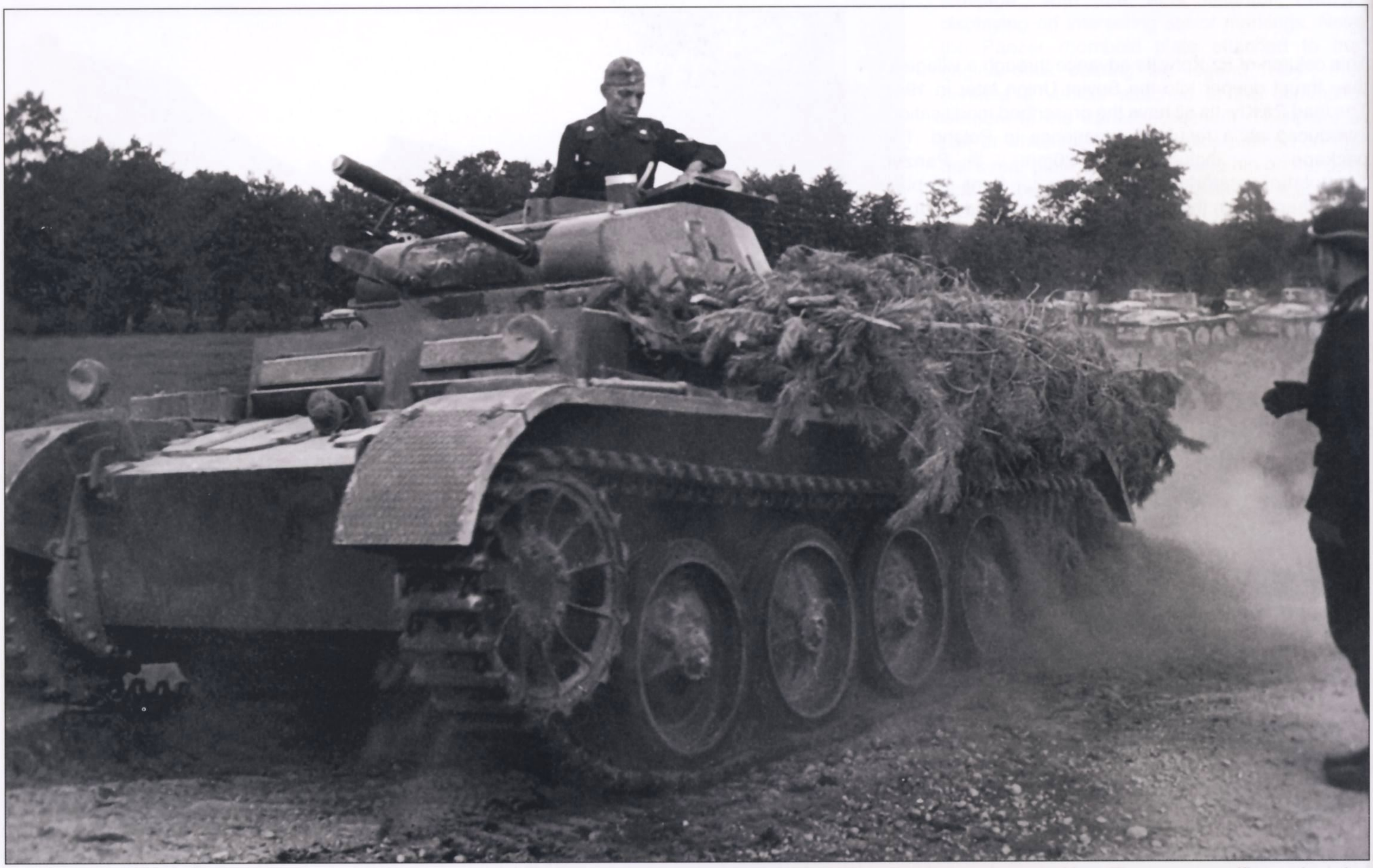
This column of Pz.Kpfw.IIs advance through a village as they thrust deeper into the Soviet Union later in 1941. The lead Pz.Kfw.IIs all have the prescribed modifications introduced as a result of experience in Poland. This package included 20mm Panzer-Frontplattenverstärkung (armor front plate strengthening) on the superstructure front and the turret front. In addition, the bow has been boxed-in with 15mm on the glacis and 20mm across the front. The turret roof has been fitted with a Winkelspiegelaufsätzen (cupola with periscopes) for the commander and a Gepäckkasten (baggage bin) has been mounted on the track-guard. Tow cables, lengths of spare track and a spare road-wheel have also been stowed on the bow; the only visible marking is a black/white Balkenkreuz national insignia seen on the Gepäckkasten.



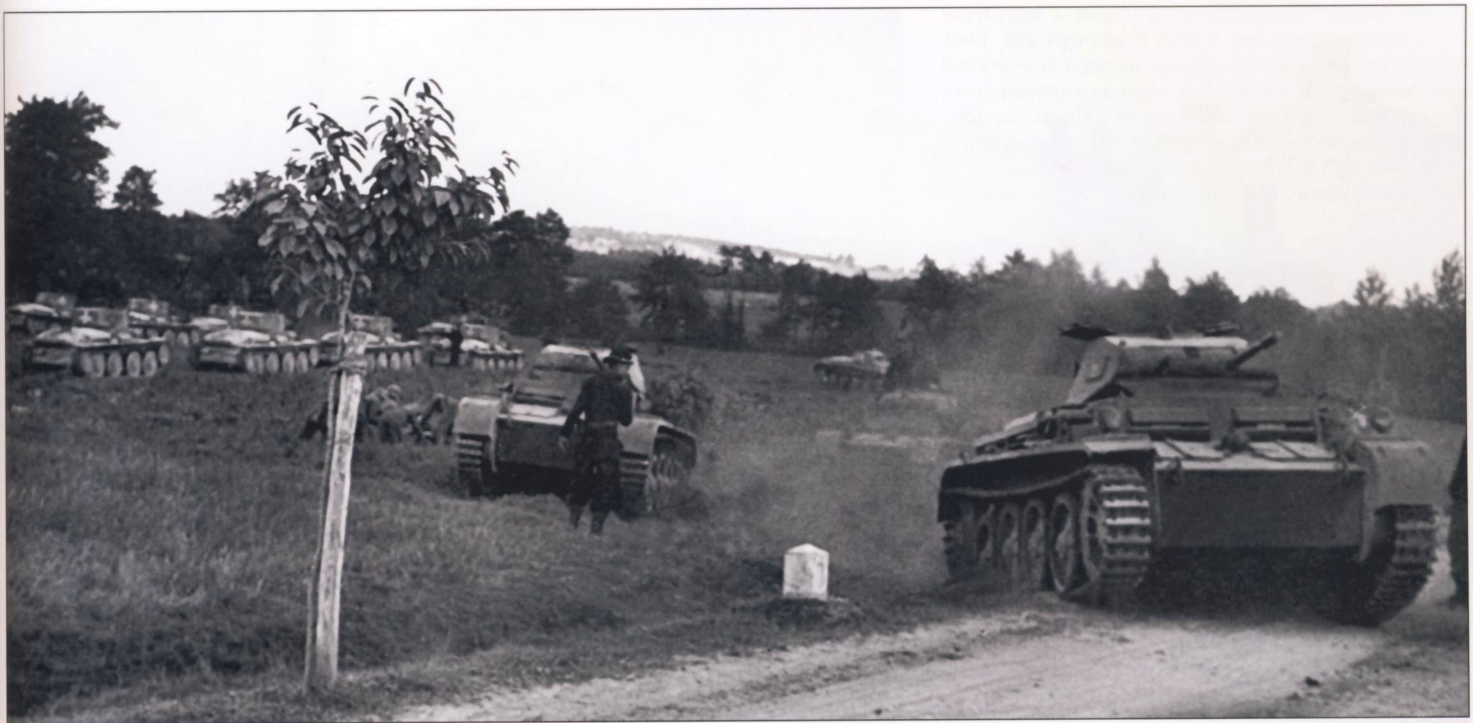
Piled high with stowage, including five-liter jerry cans, one of which is marked as carrying water, a Pz.Kpfw.II makes its way towards its destiny on the Ostfront. Note how the hard-packed earthen roadway is beginning to deteriorate due to heavy vehicular traffic; when the rains came this would most likely become an impassable muddy morass.



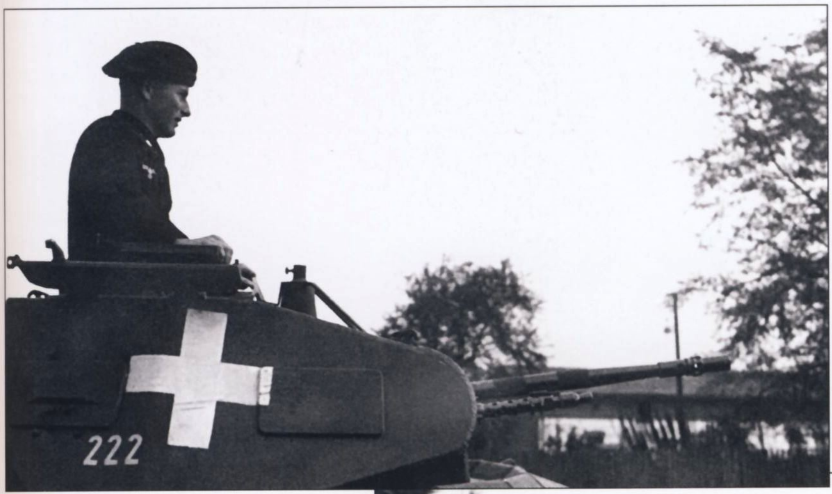
Two columns of vehicles, both going in opposite directions attempt to share a dusty dirt road, probably on the Ostfront. Note that the far column is on the move, while the near one is stationary with some activity around the Sd.Kfz.11. The artillery tractor is hauling a 10.5cm I.FH18 light field howitzer; note the gun-in-battery letter, "B", in white, on the rear panel of the half-track. The Pz.Kpfw.II Ausf.A, B or C has what appears to be the bear insignia of 3.Panzer-Division, in white on the side of the turret; note also the black/white Balkenkreuze national insignia on the superstructure side and rear plates.



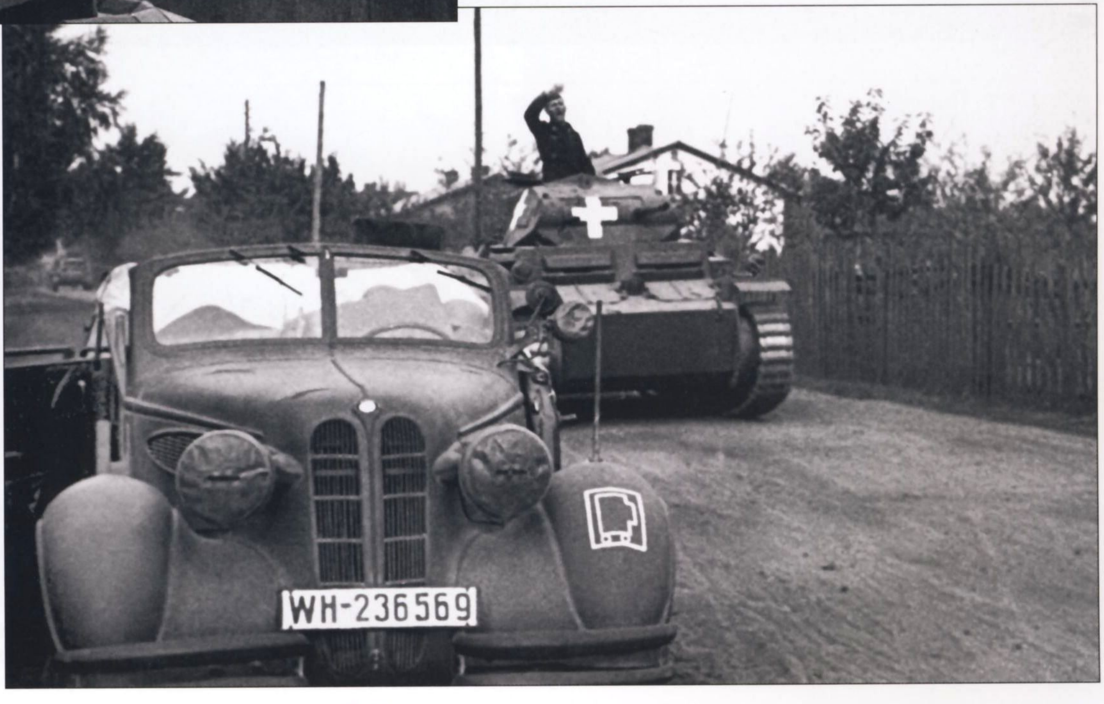
As a gun-armed tank, the Pz.Kpfw.II Ausf.D saw only very brief service in the Polish campaign, before first being converted into Flammpanzer (flame-throwing tanks) and later into Panzerjäger (tank hunters). Thus, photographs in this configuration do not abound. Note the obliterated solid white Balkenkreuz national insignia on the gun mantlet and the turret side wall; pine boughs on the track-guard were used to camouflage the Panzer. In the background are a number of Pz.Kpfw.III(t) light tanks, later re-designated as Pz.Kpfw.38(t).



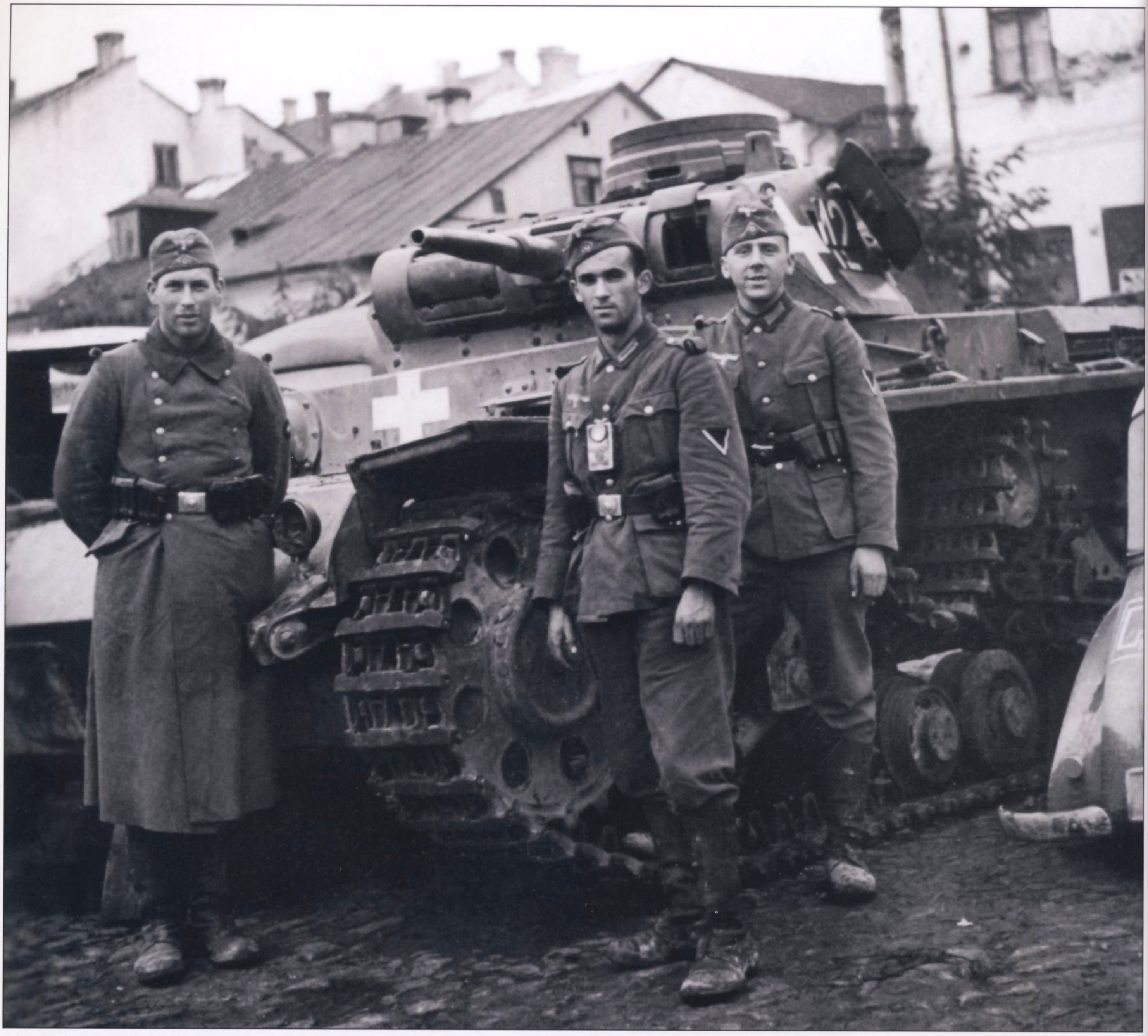
Also from the same sequence of images, two more Pz.Kpfw.II Ausf.Ds move across the cameraman's field of vision. The lead leichte Panzer exhibits signs of the white Balkenkreuze being obliterated or over-painted on the gun mantlet, between the 2cm KwK30 and the MG34. Note also that one mud-flap is missing from the near-side track-guard, while the other is still in place. Again note the same group of Pz.Kpfw.III (t)s in the background.



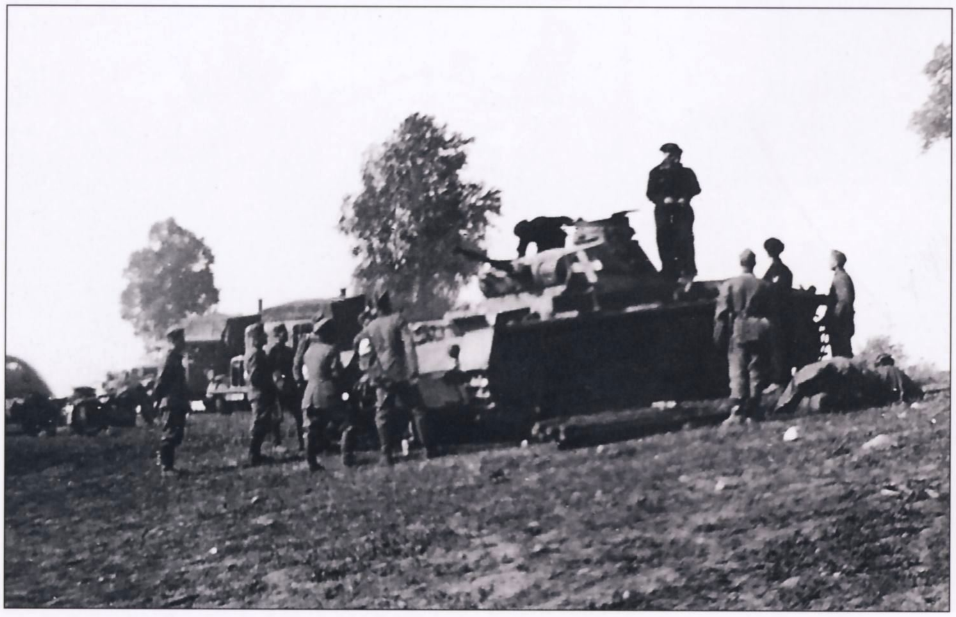
A close-up of the turret of this Pz.Kpfw.II Ausf.D shows an intact solid white Balkenkreuz national insignia, as well as a Tac number, "222" in white; the latter indicated the second tank in the second platoon of the second company of the tank battalion. Note also the un-covered device on the turret roof plate, the details of the 2cm KwK30 and the MG34, and various other bits such as the weld beads on the bullet splash deflector on the hull roof plate.



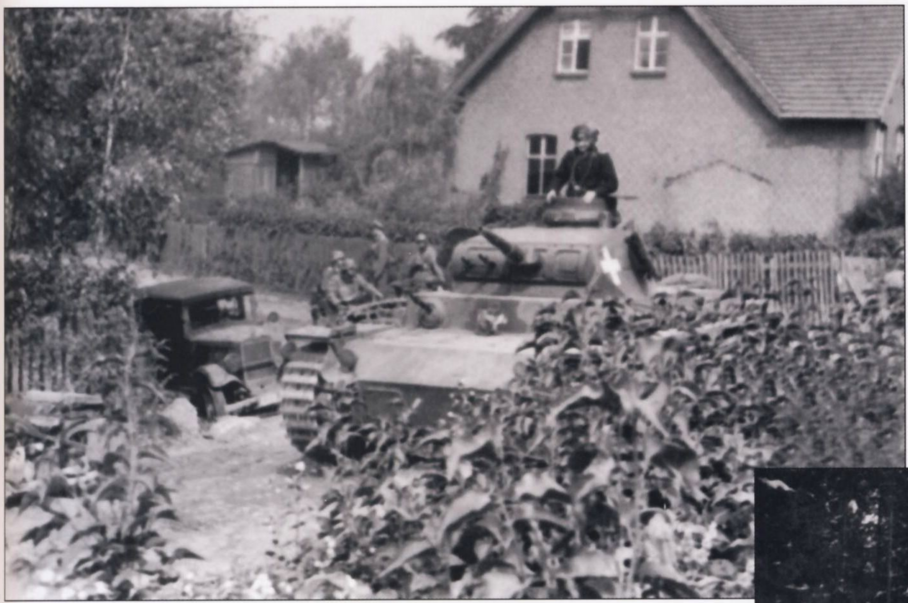
A light automobile sporting a tactical symbol for a wheeled communications unit attached to a motorized infantry formation, stands by the side of the road as a Pz.Kpfw.II Ausf.D overtakes it. While the distinctive suspension system seen on this model of leichte Panzer is not visible, the configuration of the hull, the location of the split access hatch lids and the two vision port covers on the superstructure front positively identify the type. Note the two solid white Balkenkreuze national insignia on the turret side and gun mantlet; another would be seen on the rear face and the opposite side of the turret.



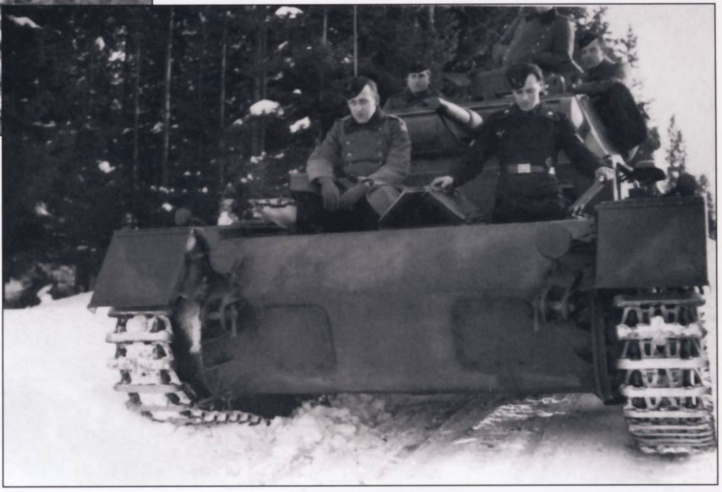
A trio of Heer (army) infantrymen pose in front of a disabled Pz.Kpfw.III Ausf.C of the 5.Panzer-Division during the Polish Campaign of 1939. Note that the near-side track has been broken, but otherwise no other damage is visible. This mittlerer Panzer is marked in the typical fashion of this division for the time period in question; note the solid white Balkenkreuze on the superstructure front and the turret side, the white two-digit Tac number, "12" on the turret and the yellow Panzer rhomboid below it. The camouflage scheme would have consisted of the two-tone system of Dunkelgrau Nr.46 over-sprayed with Dunkelbraun Nr.45 in patches and broad stripes, officially in effect since July of 1937.



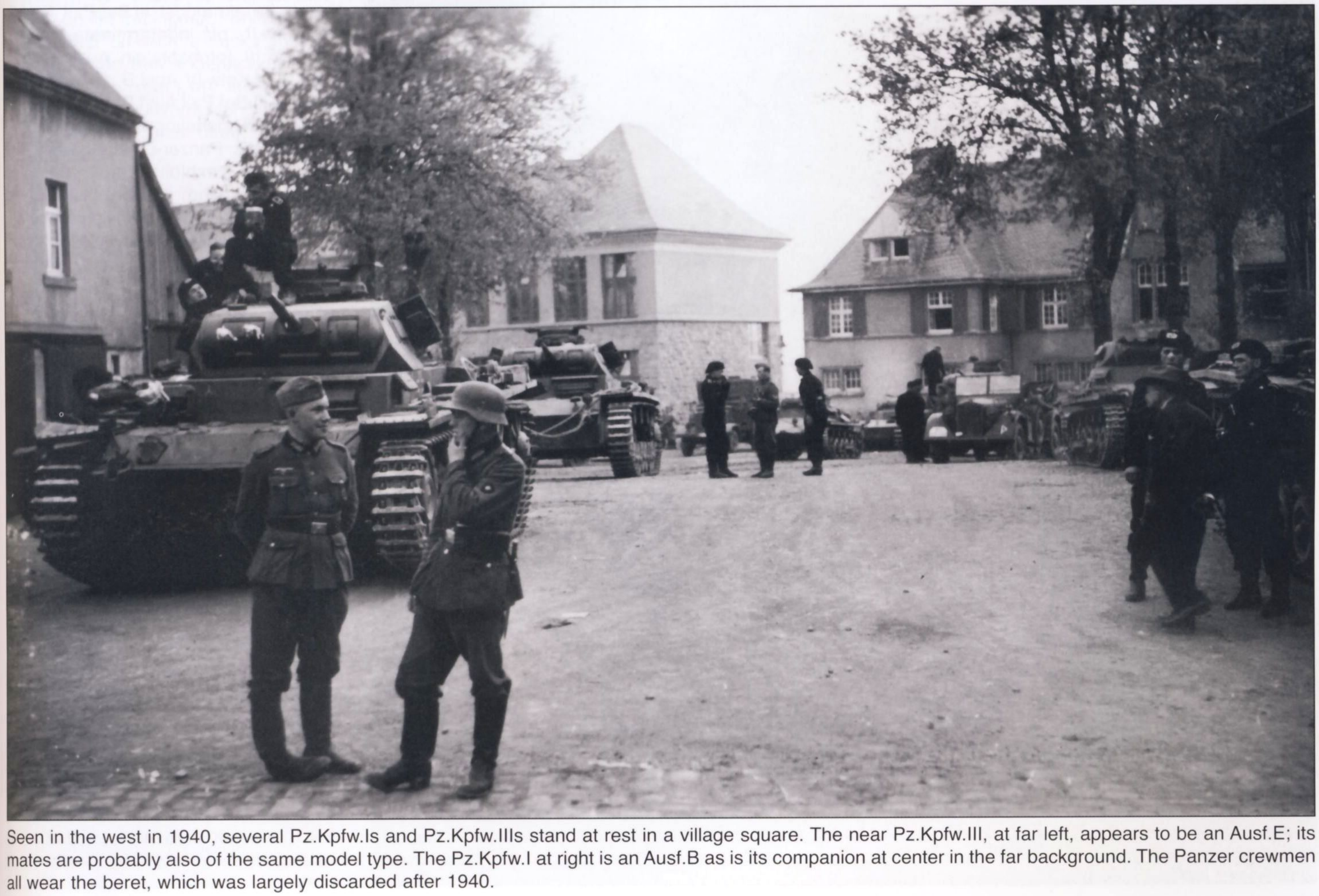
This Pz.Kpfw.III Ausf.C is also seen at rest during the Polish Campaign, with a number of wheeled tactical vehicles parked in the background. Again, the solid white Balkenkreuze visible on the turret side places the mittlerer Panzer in the above-mentioned time and place, while the access plates on the lower bow denote the specific model of the Pz.Kpfw.III.



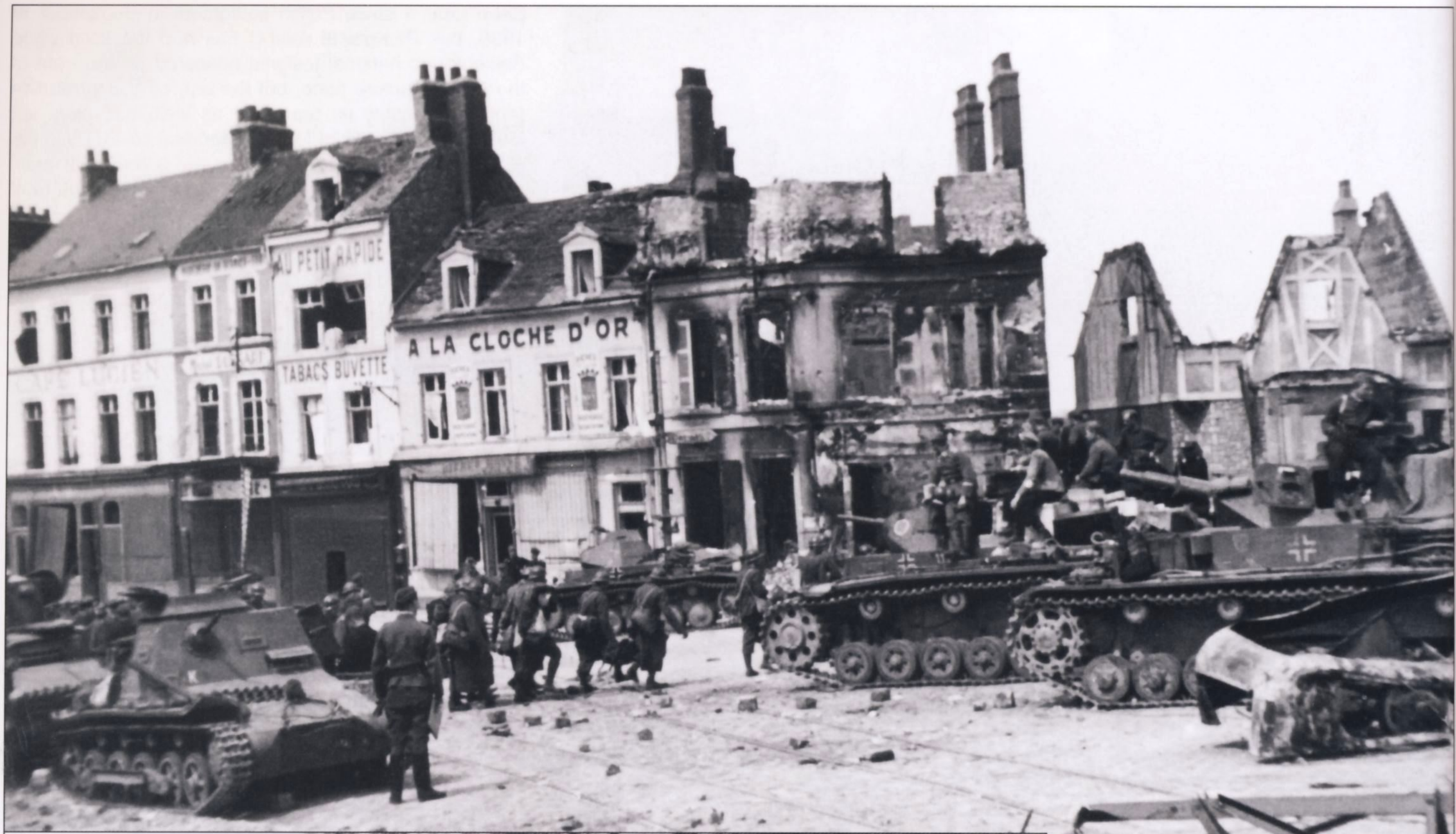
Seen near a small Polish settlement in September of 1939, this Pz.Kpfw.III Ausf.C has had the solid white Balkenkreuz national insignia obscured on the front of the superstructure plate, but the one on the turret side (and presumably its rear face as well) has been left intact. Note the pair of MG34s mounted co-axially in the main gun mantlet, to the right of the 3.7cm KwK main gun; a third MG is seen in the ball mount on the front superstructure plate.



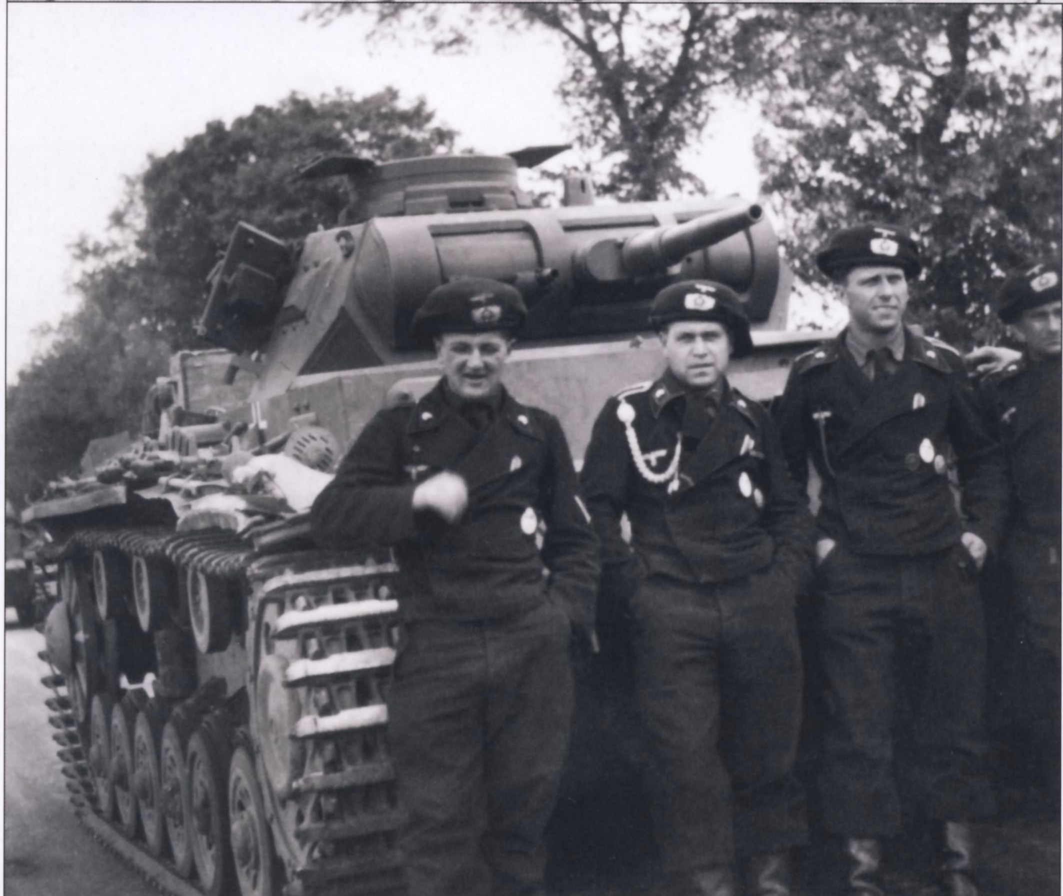
This early Pz.Kpfw.III Ausf.D (note the access plates on the lower bow, a feature of this model) is seen in Norway as part of Panzer-Abteilung z.b.V.40. Note the Notek black-out driving head-lamp on the port-side track-guard, which was not usually seen fitted to in-service vehicles of any type until after the 1940 campaigns in the west. It should also be noted that none of the visible crewmen wears the large beret, which was also rarely seen after 1940. This snow-bound mittlerer Panzer also appears to have a lighter camouflage color lightly sprayed over the base color.



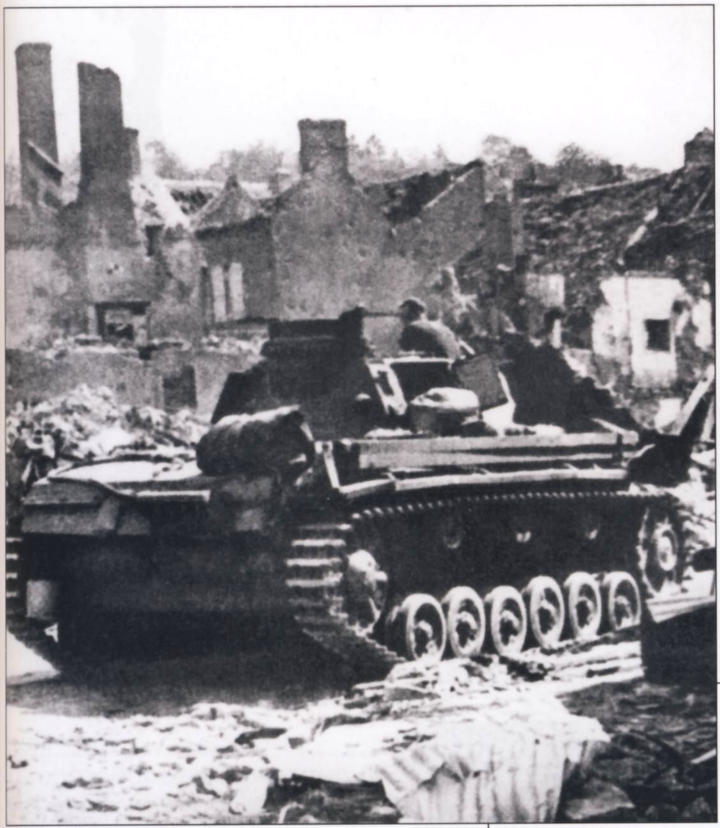
Seen in the west in 1940, several Pz.Kpfw.Is and Pz.Kpfw.IIIs stand at rest in a village square. The near Pz.Kpfw.III, at far left, appears to be an Ausf.E; its mates are probably also of the same model type. The Pz.Kpfw.I at right is an Ausf.B as is its companion at center in the far background. The Panzer crewmen all wear the beret, which was largely discarded after 1940.

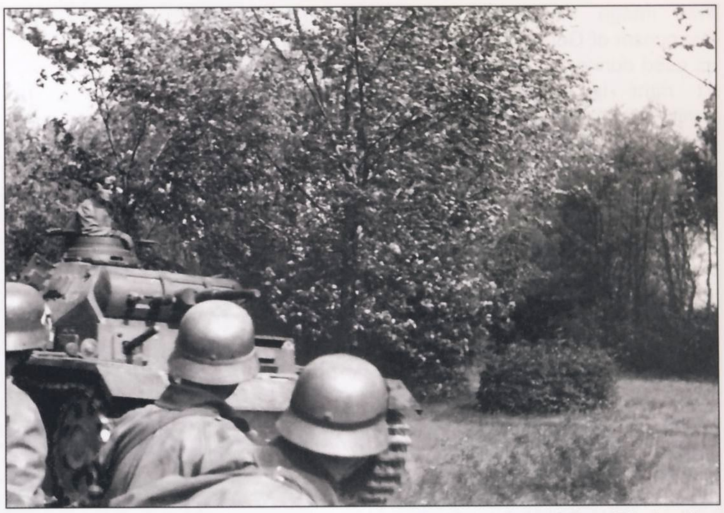


A variety of German armored vehicles have come to rest in a French town during the 1940 campaign. From left to right, they are: Pz.Kpfw.IV of indeterminate model, kl.Bef.Pz.I Ausf.B, Pz.Kpfw.II of indeterminate model, Pz.Kpfw.III (probably an Ausf.E or F) and a Pz.Kpfw.IV Ausf.B, C or D. Note that the kl.Bef.Pz.I Ausf.B is marked with a white "K" denoting its assignment to von Kleist's Panzer-Gruppe, while the Pz.Kpfw.III exhibits an un-known circular marking. Where visible, the Balkenkreuze national insignia appear to be of the white-outline style.



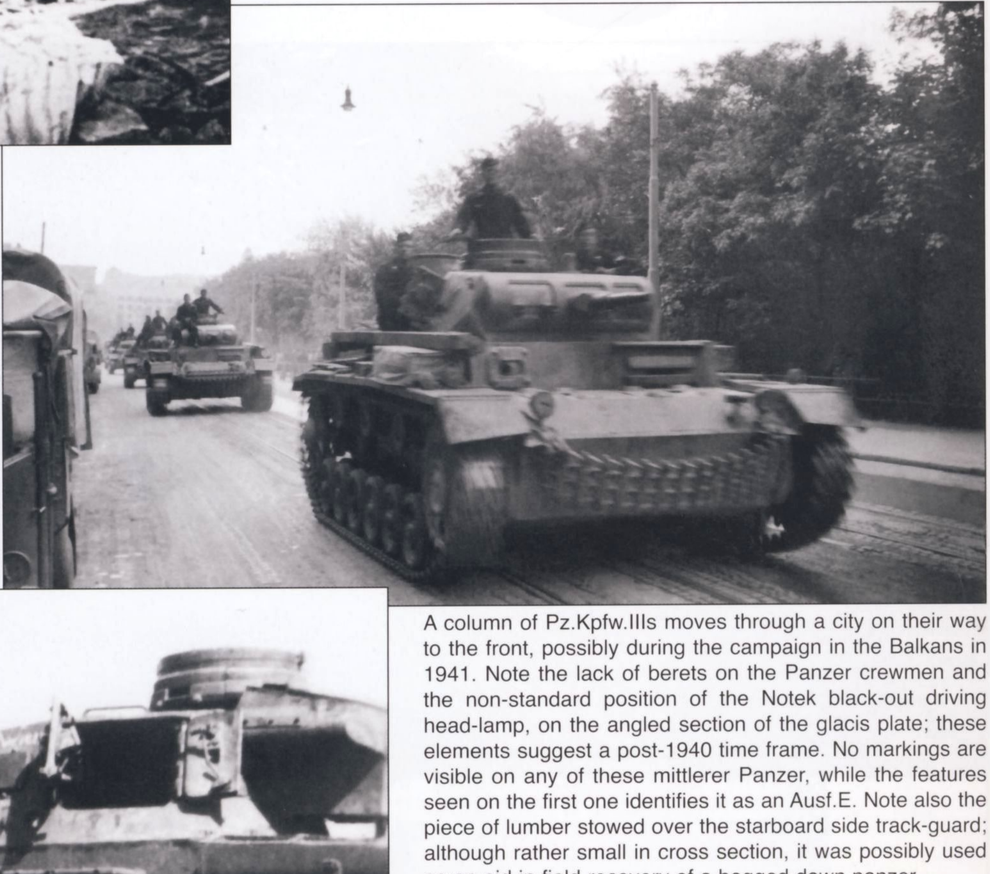
Four of the five men who normally crewed this Pz.Kpfw.III Ausf.E or F are visible in this image, which was probably created sometime in 1940. Note the black/white Balkenkreuz national insignia just visible on the superstructure side wall, just aft of the view-port flap and what appears to be the devil's head insignia of Panzer-Regiment 31, 5.Panzer-Division. The split hatch lids on the turret side wall, the brain guard over the driver's visor and the dummy rotating periscope cover to the right of the commander's cupola all help identify the model of this mittlerer Panzer.



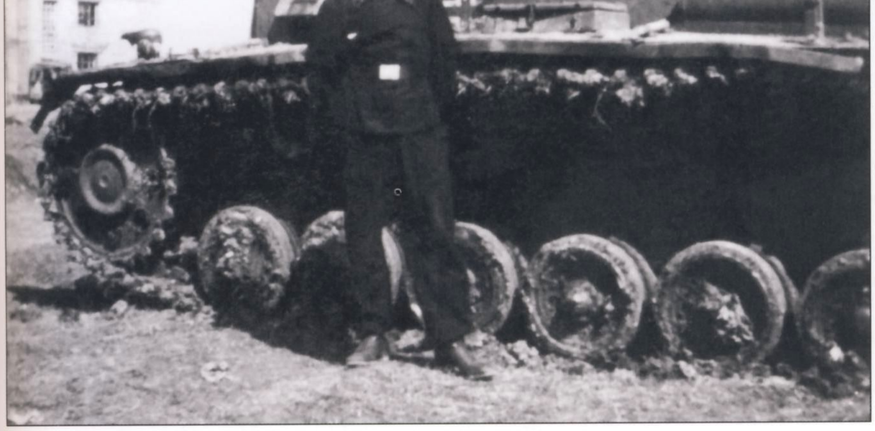


While three Heer (army) soldiers look on, a Pz.Kpfw.III Ausf.E or F belonging to the 6.Panzer-Division breaks cover and rolls forward. Note the very small "XX" marking of the division to port of the driver's visor and what is apparently an illegible Tac number on the side of the turret. This mittlerer Panzer is apparently participating in an exercise as can be surmised by the covers on all visible weapons.

Passing through a thoroughly destroyed town, probably during the campaigns in the west during 1940 (note the architecture of the structures), this Pz.Kpfw.III Ausf.E or F exhibits quite a bit of damage to its near-side track-guards. It has a pair of long wooden beams stowed on the track-guard, which were normally used to help "un-ditch" a stuck Panzer. It has not yet been fitted with a Gepäckkasten (baggage bin) on the rear of the turret, but a Nebelkerzenabwurfvorrichtung (rack to deploy smoke candles) has been installed on the superstructure rear.

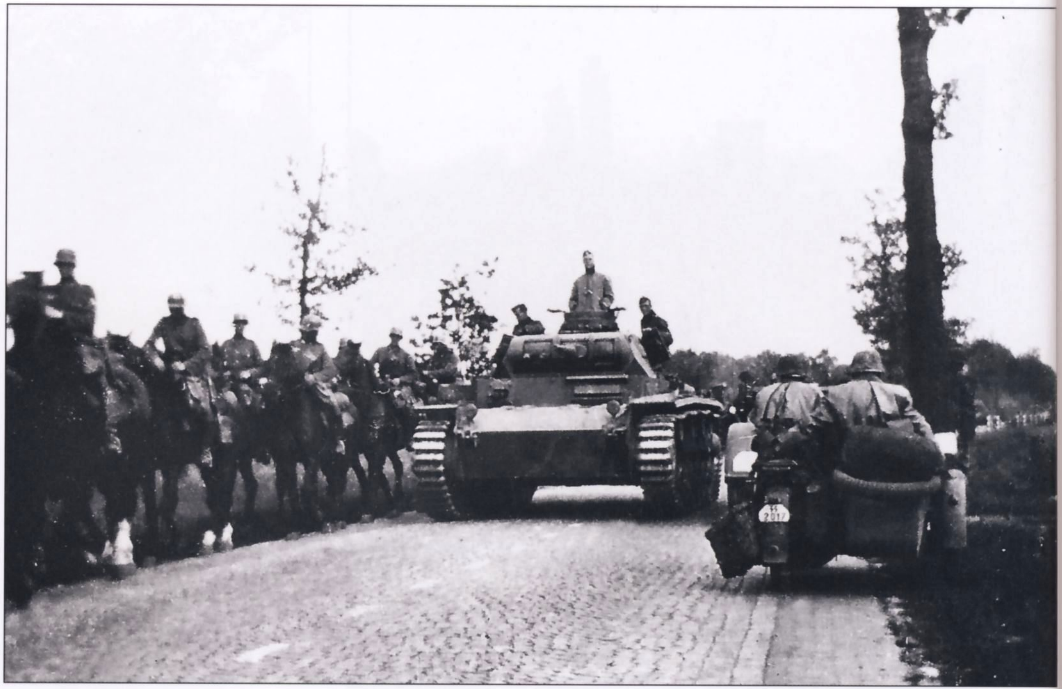


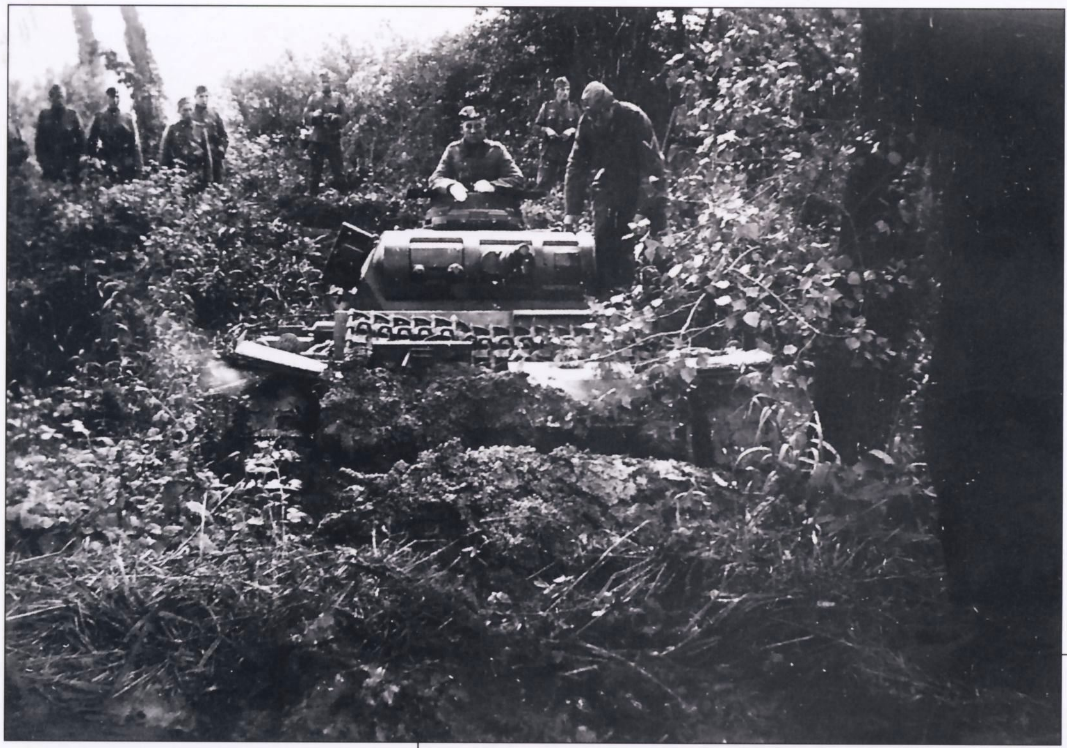
A column of Pz.Kpfw.IIIs moves through a city on their way to the front, possibly during the campaign in the Balkans in 1941. Note the lack of berets on the Panzer crewmen and the non-standard position of the Notek black-out driving head-lamp, on the angled section of the glacis plate; these elements suggest a post-1940 time frame. No markings are visible on any of these mittlerer Panzer, while the features seen on the first one identifies it as an Ausf.E. Note also the piece of lumber stowed over the starboard side track-guard; although rather small in cross section, it was possibly used as an aid in field recovery of a bogged down panzer.



A crewman poses next to his Pz.Kpfw.III Ausf.E or F in a photograph possibly taken in Greece in 1941. Note the white-outline style Balkenkreuz national insignia on the superstructure side and an indecipherable legend (MZAW???) on the turret side wall, above the view-port flap; below the flap is the Tac number for the 7.Kompanie, "735". There is a Notek black-out driving head-lamp on the near track-guard, a feature that was rarely seen until the campaigns in 1941.

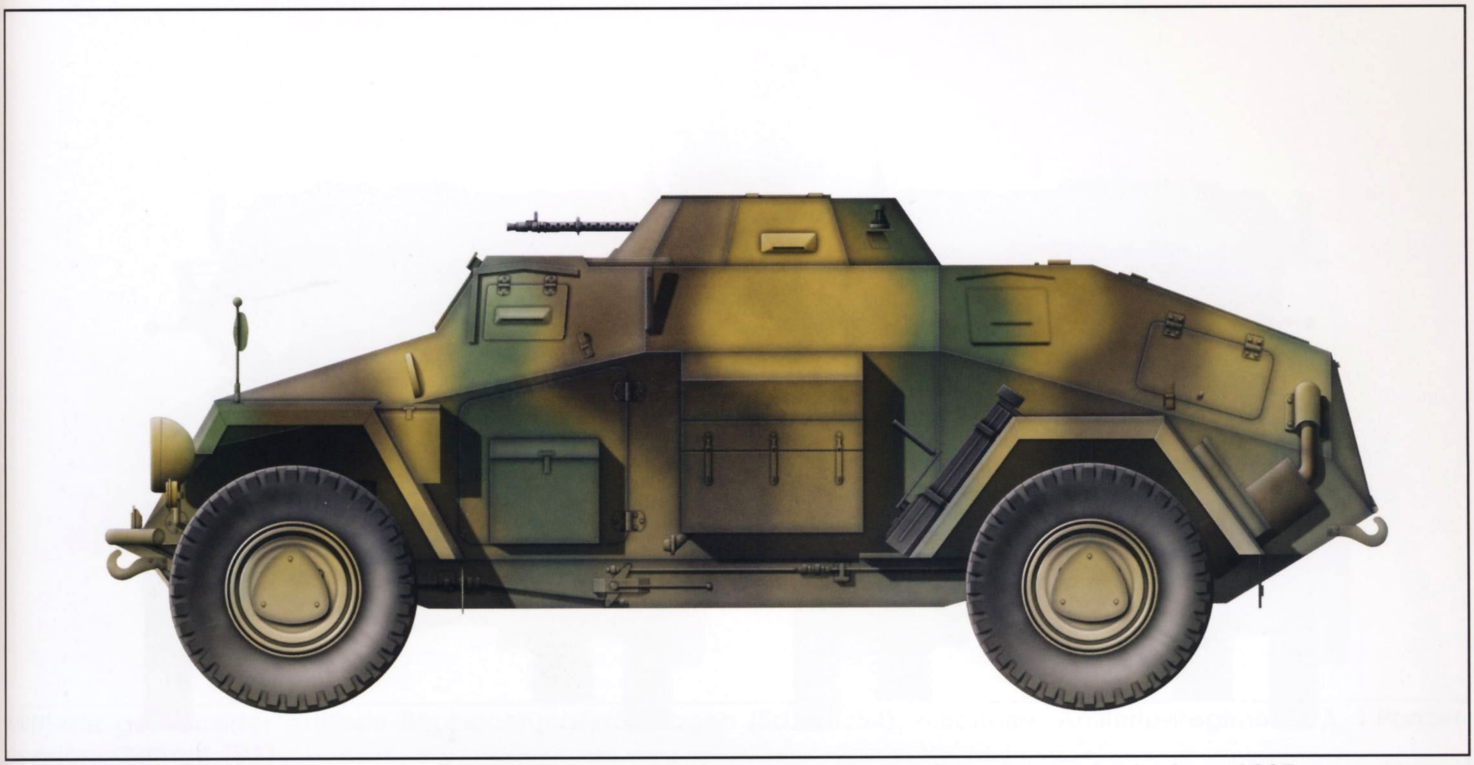
This image effectively presents a microcosm of Germany's ground forces as used during the Second World War. At right is a heavy motorcycle combination belonging to the Nazi Party's private army, the Waffen-SS; note the "SS" prefix on the registration plate and the camouflaged helmet covers on the driver and passenger. In the center is a Pz.Kpfw.III Ausf.E or F belonging to the Heer (army) and at far left, horse cavalrymen, also from the Heer. Although Göbbels' Propaganda Ministry would have preferred the world to think otherwise, Germany's armed forces utilized horses on a massive scale; it was not the massively motorized force it was thought to be. In addition, having more than one "army" (Heer, Waffen-SS and Luftwaffe field divisions) was a not only a strain on material resources and manpower, it allowed Hitler's closest associates to carve out their own private empires within the state, leading to petty internal squabbles and lack of efficiency when the nation cold least afford it.





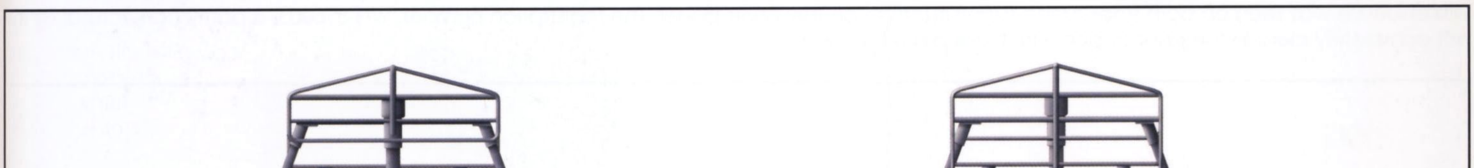
The crew of this Pz.Kpfw.III Ausf.E or F has their mittlerer Panzer crashing its way through some fairly dense underbrush, while several other soldiers look on. Several features help to identify this model type, such as the split hatch lids on the turret sides, the rain guard over the driver's view-port and the type of commander's cupola. The crew has also hung spare track links on the front of the hull and superstructure, at the expense of allowing the use of the radio operator's MG34.

Soldiers mill around next to an apparently stuck panzer as a Pz.Kpfw.III Ausf.E is guided in for a recovery attempt. At this distance the finer details of the mittlerer Panzer are not readily apparent, but the suspension system, armament configuration and lack of armored guards to cover the non-existent holes that were used to cool the brakes, positively identifies the model.



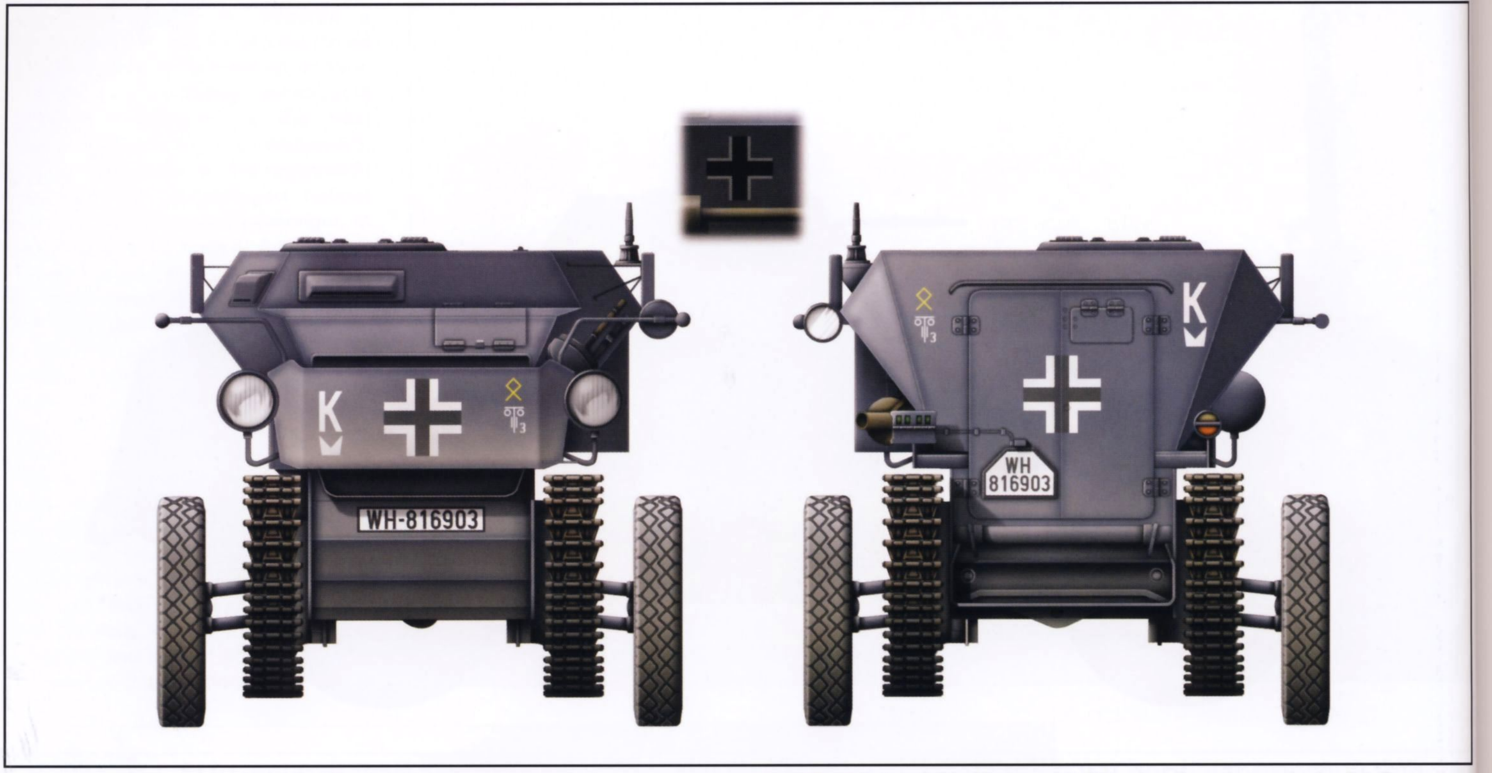
Leichter Panzerspähwagen (MG) (Sd.Kfz.221), unidentified unit, pre-war Germany, prior to June 1937

This light armored reconnaissance car is painted in the pre-war "feuersicherem Buntfarbenanstrich" three-tone system of Nr.17 Erdgelb-matt, Nr.28 Grün-matt and Nr.18 Braun-matt; in this case the colors were applied with a spray-gun in a soft-edge pattern. In addition, the view-ports have been given further protection by painting imitations on several locations on the superstructure's side plates. In this time period, German AFVs normally wore no tactical markings unless they were on field exercises, so only this vehicle's registration plates distinguish it from others. These are in three places, two on the rear of both rear wheel wells and a third located low and in the center on the glacis plate; they read WH-66322.



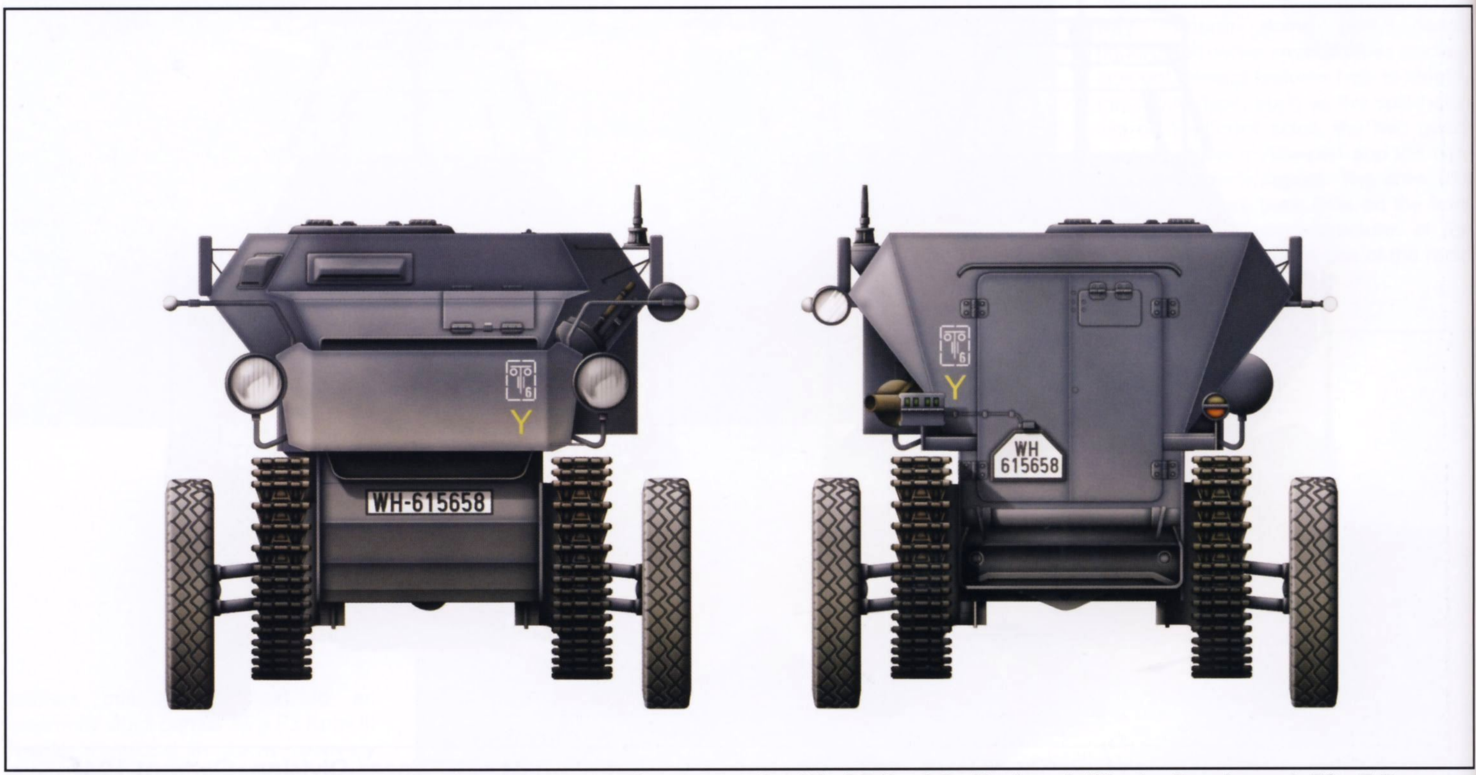
Schwerer Panzerspähwagen (Sd.Kfz.231) (8-Rad), Kradschützen-Bataillon 61, 11.Panzer-Division, Ostfront 1941

This heavy armored reconnaissance car wears the famous, but un-official ghost insignia of the division on both the front and rear Vorpanzer (spaced armor) plates, along with a Tac marking for a motorcycle reconnaissance battalion. The rear plate also includes a black and white Balkenkreuz, which was also repeated on the rearmost superstructure side panel on both sides of the vehicle. The registration plate, WH-1021123, is seen in both standard positions on the rear end of the vehicle, mounted on separate plates. The registration plate would also be seen painted onto the nose-mounted Vorpanzer. After June 1940, German AFVs were finished overall in Dunkelgrau RAL 7021; on this vehicle, the crew seems to have cleaned the coat of road dust from all insignia, leaving them seemingly surrounded by a darker color.



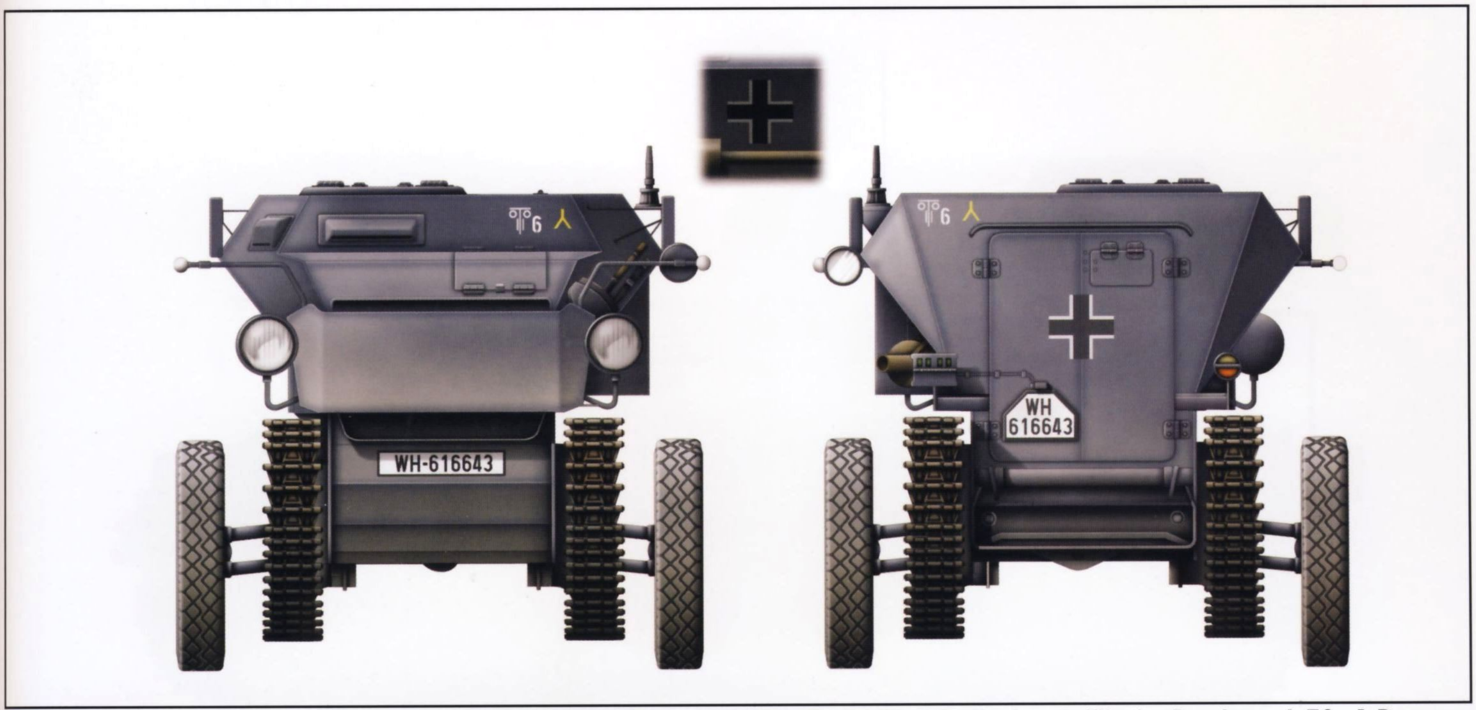
Mittlerer gepanzerter Artillerie-Beobachtungskraftwagen (Sd.Kfz.254), 3.Batterie, Artillerie-Regiment 4, 14.Panzer-Division, Ostfront 1941

This armored artillery observation vehicle served with several Panzer-Divisionen in their Artillerie-Regimenter. An Austrian design called the RK7, these vehicles all went into German service just after the end of the French campaign. Thus they were finished in the "new" scheme of monotone Dunkelgrau 7021. This vehicle has several interesting markings on its bow plate, to include a Tac sign for a motorized artillery battery in white and a black/white Balkenkreuz national insignia. The divisional insignia (a diamond with extensions towards the bottom is painted in yellow, as is a geometric design, just below the "K" for Panzergruppe von Kleist. These would be repeated on the rear of the vehicle, and a Balkenkreuze was seen on both sides of the superstructure, on the lower panel. The registration number, WH-816903, is partly conjectural as it is not completely clear in the photo upon which this plate is based.



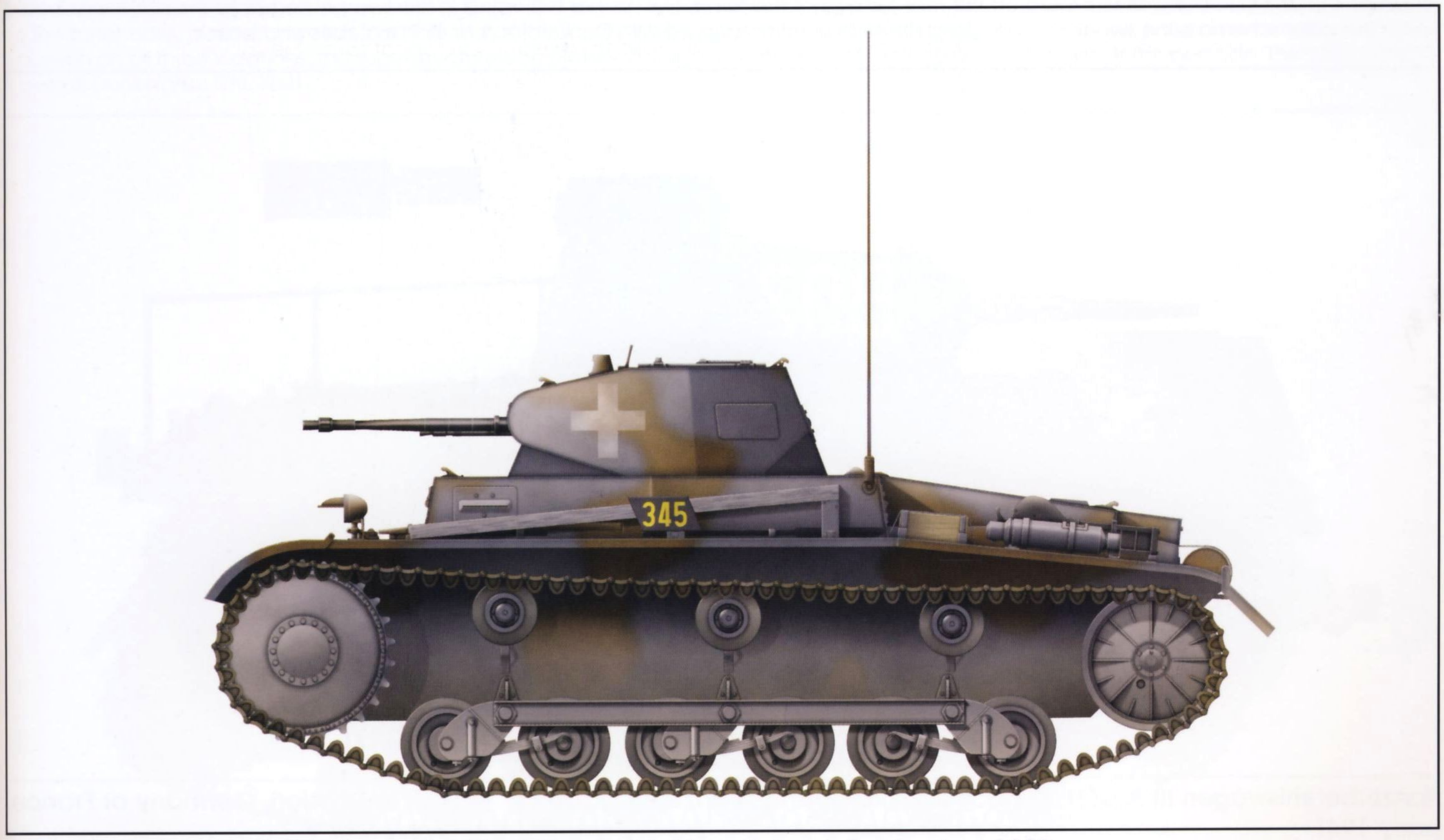
Mittlerer gepanzerter Artillerie-Beobachtungskraftwagen (Sd.Kfz.254), 6.Batterie, Artillerie-Regiment 78, 7.Panzer-Division, Ostfront 1941

This armored artillery observation vehicle wears the post-1940 variation of the division's insignia, an upright "Y", painted in yellow, on the bow plate's port side. Above it, inside a stenciled rectangle, is the Tac marking for a motorized field artillery battery, with the number 6 indicating the battery within the regiment. Centered low on the bow is the registration plate, WH-615658. No Balkenkreuz national insignia are present on this Dunkelgrau RAL 7021-colored vehicle.



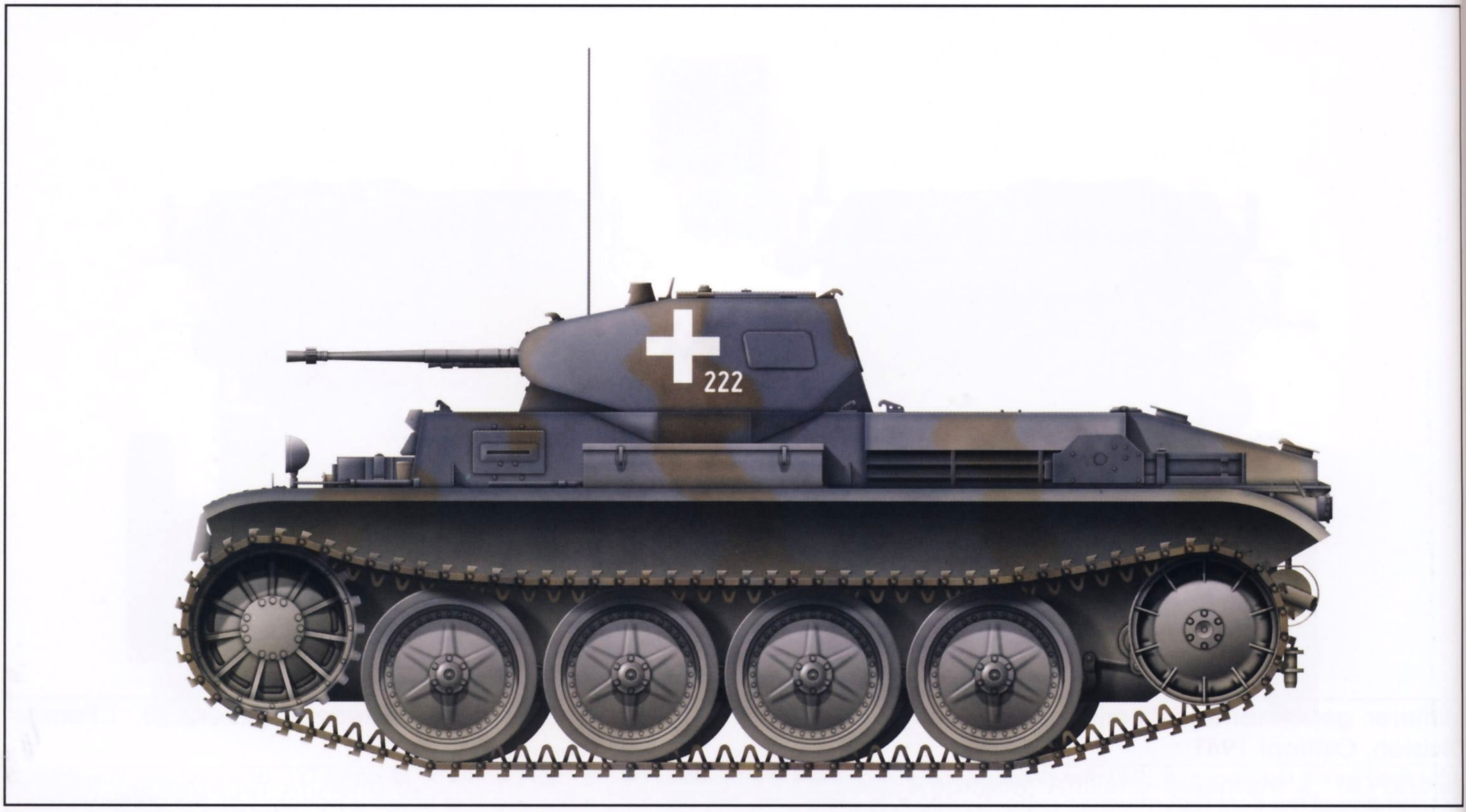
Mittlerer gepanzerter Artillerie-Beobachtungskraftwagen (Sd.Kfz.254), 6.Batterie, Artillerie-Regiment 73, 1.Panzer-Division, Ostfront 1941

After the French Campaign if 1940, the divisional insignia of the 1.Panzer-Division was changed to an inverted "Y", as seen here, in yellow on the port-side of the front superstructure plate. Next to it, in white is the Tac sign for a motorized field howitzer battery, with the battery number, 6, in white. The registration plate, WH-616643, is seen centered low on the bow; it would be repeated on the rear plate as well. Over-sized Balkenkreuze national insignia in black with a white outline were seen low on the superstructure sides and centered on the split-hatch lids on the rear superstructure plate. The vehicle is finished overall in Dunkelgrau RAL 7021.



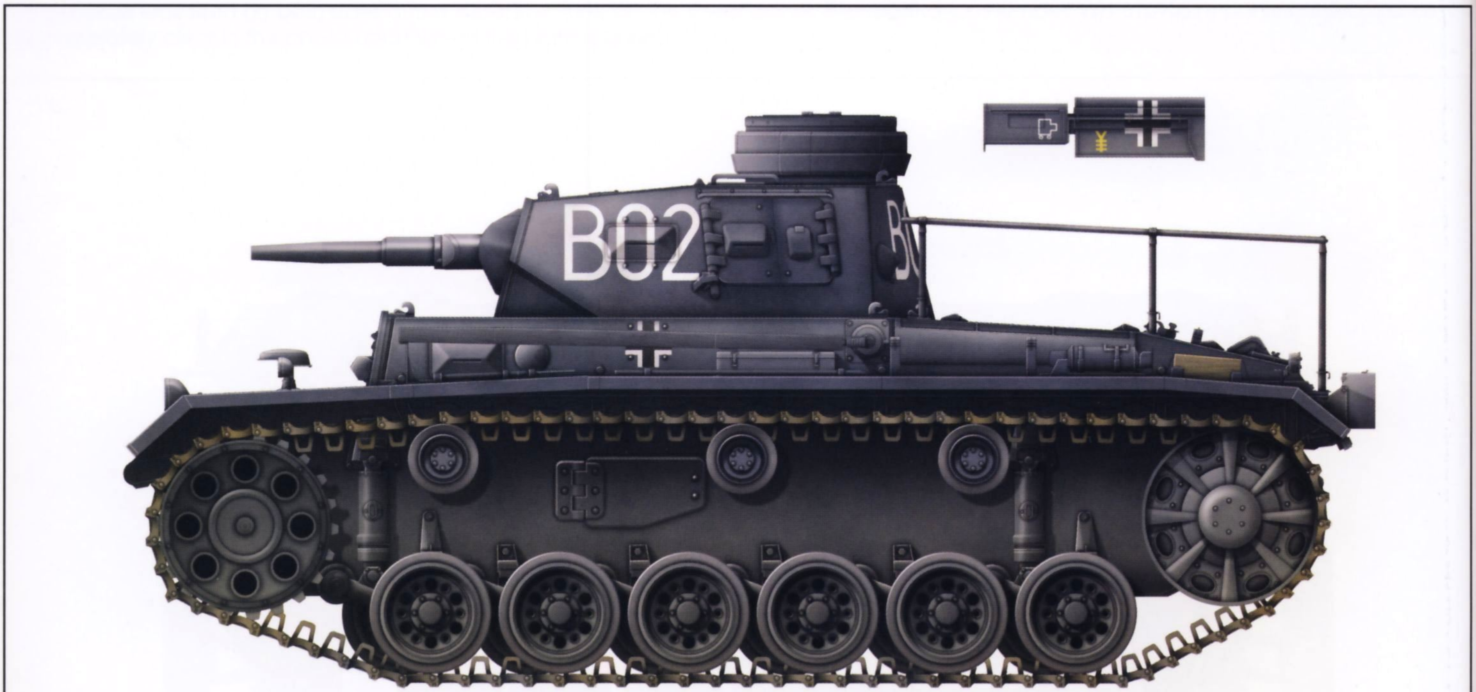
Panzerkampfwagen II Ausf.b, unidentified Panzer-Division, Poland, September 1939

This leichter Panzer is finished in the usual camouflage scheme in use at the time of the invasion of Poland. This consisted of a base color of Dunkelgrau Nr.46 over-sprayed with Dunkelbraun Nr.45 in patches, so it covered approximately 1/3 of the item being painted. When initially deployed for combat, the usual solid white Balkenkreuze national insignia were seen painted on the front, rear and both sides of the turret. This leichte Panzer's crew obscured all but the rear one, possibly by scraping off the white paint, as only a "ghost" of the Balkenkreuz is seen on the turret side plates. The final markings are rhomboid-shaped plates with a yellow, three-digit Tac number, 345. One plate was fitted on each side, on the track-guards, with a third mounted on the rear of the hull. The photograph this plate is based on also indicated that the rear-most engine compartment access hatch lid was painted white as an aerial recognition device.



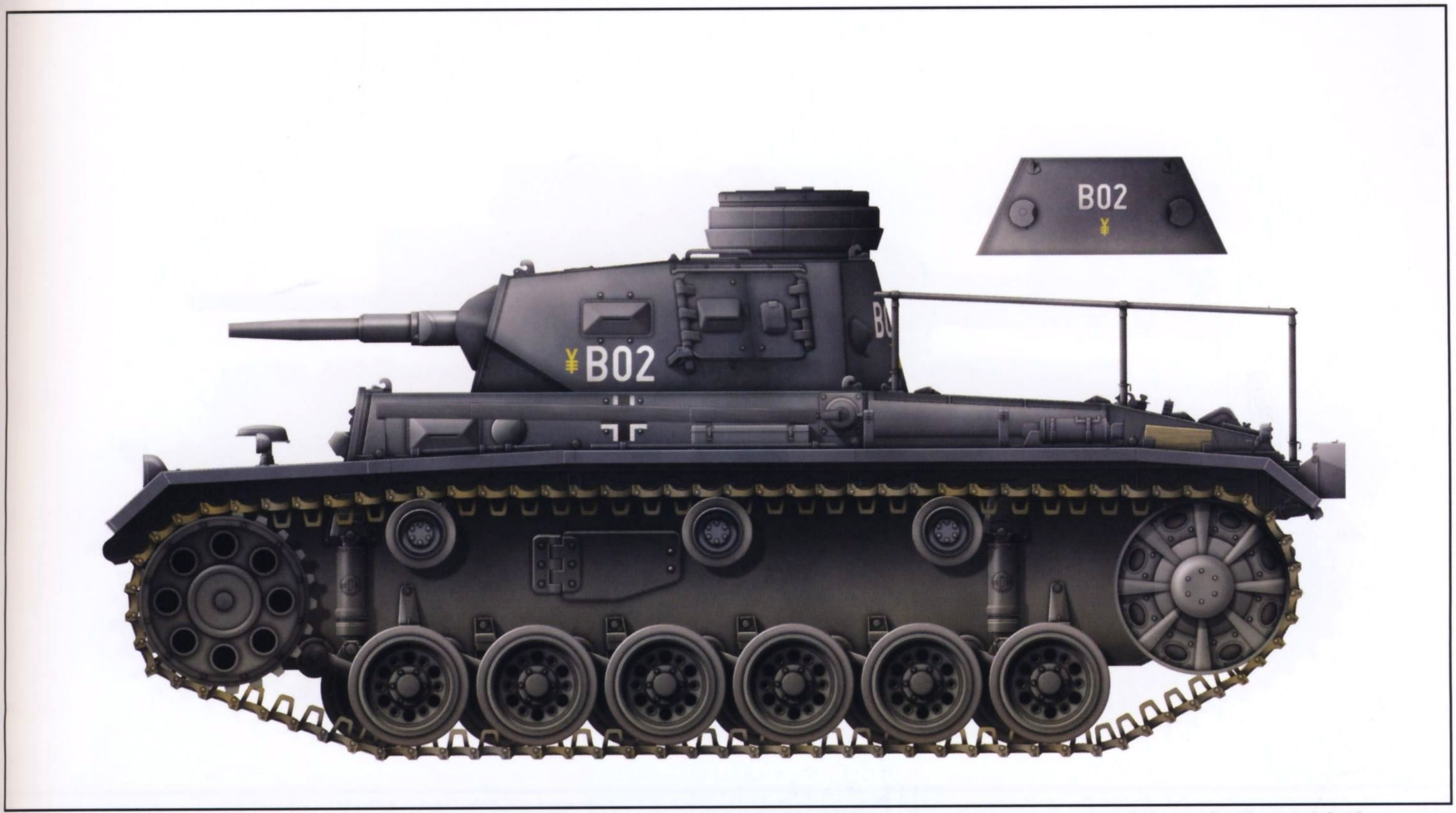
Panzerkampfwagen II Ausf.D, Panzer-Abteilung 66, 2.leichte-Division, Poland 1939

This light tank is also marked similarly to the Ausf.b, with solid white Balkenkreuze on all four sides of the turret. It differs from the standard practice of the time in that the white three-digit Tac numbers, 222, were painted on the turret sides, below and to the rear of the national insignia. It is probable that the number was repeated on the rear surface of the turret, but it is not indicated in the two photographs this plate was based upon. The color scheme is the two-tone Dunkelgrau Nr.46 base over-sprayed with Dunkelbraun Nr.45 in patches and bands.



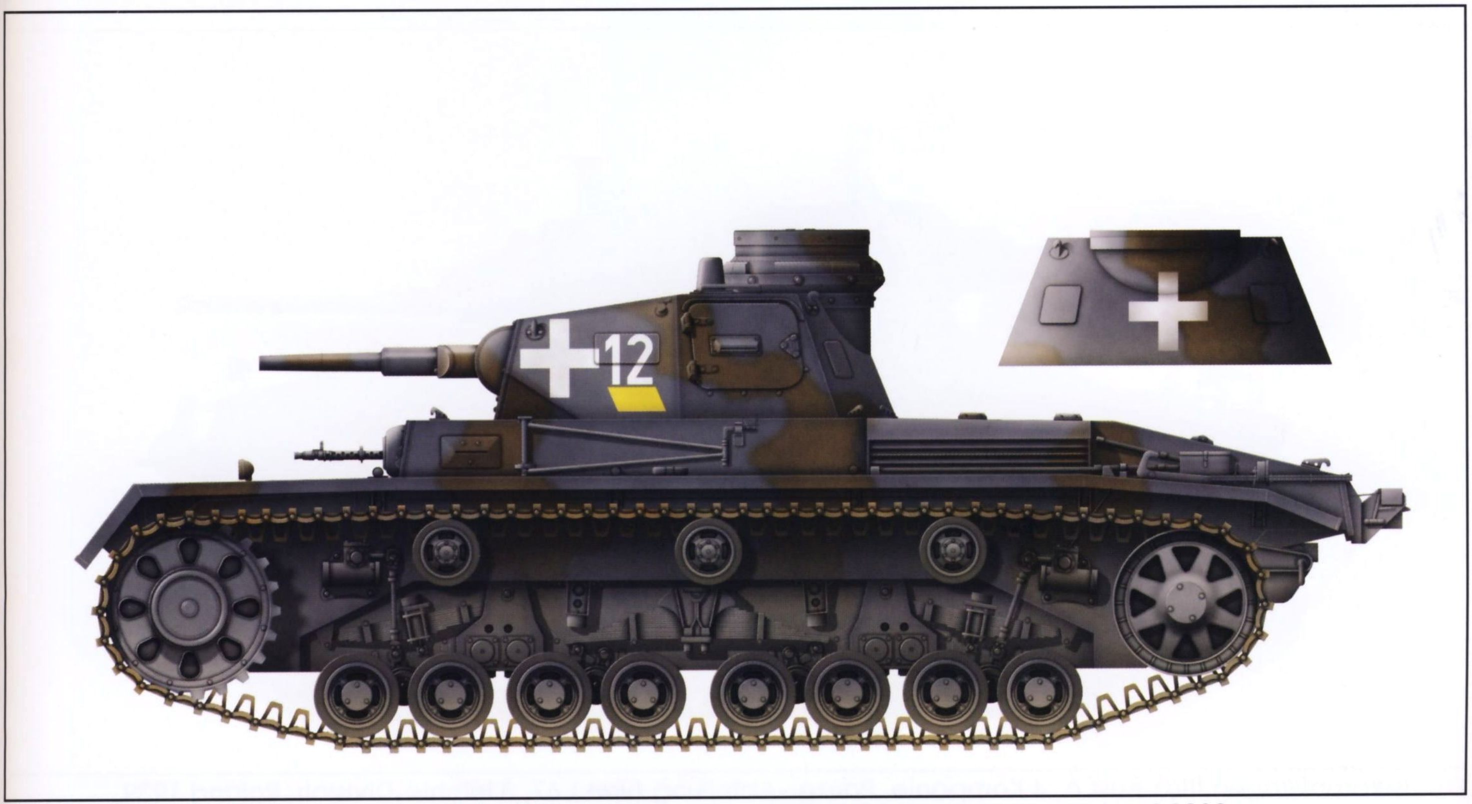
Panzerbefehlswagen III Ausf.H, Brigadestabskompanie, Panzer-Brigade 18, 18.Panzer-Division, Germany or France, early 1941

This command tank is prominently marked with large solid white Tac numbers, in this case "B02"; other vehicles in this unit wore "B01", "B03" and "B04". These numbers appear on both sides and the rear of the turret. At the onset of Operation Barbarossa, the division contained three Panzer-Abteilungen grouped under a Panzer-Brigade headquarters structure, which probably explains the "B" in the Tac number. Note that regimental command tanks had an "R" prefix, while battalion elements had a Roman numeral, "I", "II" or "III", etc. The Balkenkreuze national insignia have been modified after the Polish campaign, with black paint filling in most of the center; one is seen on each of the superstructure side plates and a third is on the rear hull plate, towards the port side. Beneath and to the left of the latter is the division's insignia, an upright "Y" with three horizontal strokes through its foot, painted in yellow. A tactical sign for a motorized communications unit is seen on the port-side mud-flap; this may have been repeated on the front mud-flap as well. The color scheme is overall Dunkelgrau RAL 7021.



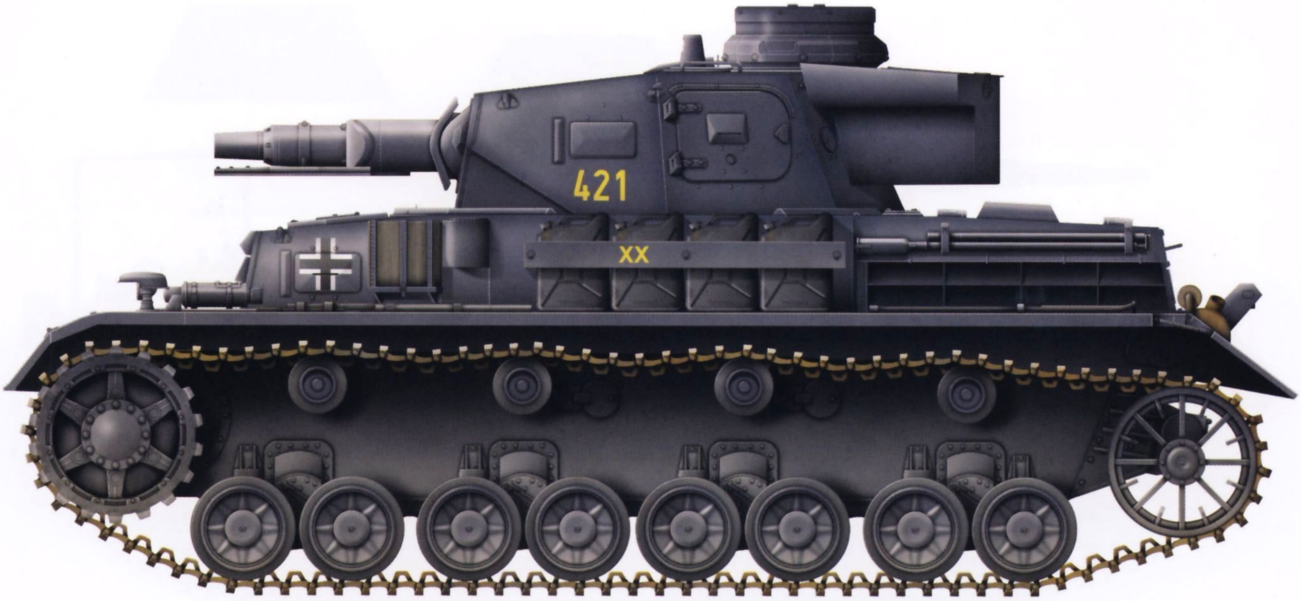
Panzerbefehlswagen III Ausf.H, Brigadestabskompanie, Panzer-Brigade 18, 18.Panzer-Division, Ostfront 1941

By the time the 18.Panzer-Division entered the Soviet Union on June 22, 1941, the division had changed the size of their Tac numbers; this plate is based on three photographs of one such vehicle. Also marked as "B02", the white Tac numbers are on the sides and rear of the turret, but are substantially smaller than those seen previously. The division's insignia, an upright "Y" with three horizontal strokes through its foot was seen on the turret sides, painted in yellow, just forward of the Tac numbers, and on the rear, centered below them. The Balkenkreuze national insignia was seen on all three locations: the superstructure side plates and again on the rear of the engine deck, towards the port side. The color scheme is overall Dunkelgrau RAL 7021.



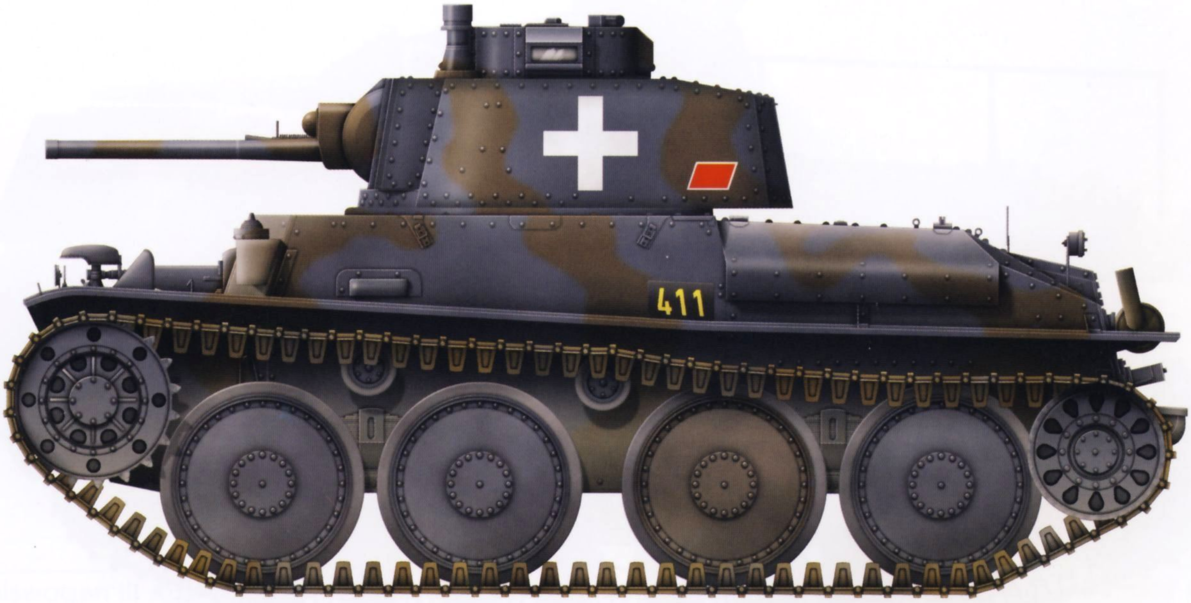
Panzerkampfwagen III Ausf.D, 1.Kompanie, Panzer-Regiment 15, 5.Panzer-Division, Poland 1939

One of only three Pz.Kpfw.IIIs in the entire division at the time, this Ausf.D is marked typically for vehicles seen in the Polish campaign. A solid white Balkenkreuze is seen on the superstructure front plate between the driver's visor and the radio operator's MG34 mount. Others are seen on the turret sides and rear. A yellow Panzer rhomboid is seen in three places on the turret (both sides and the rear), with a white Tac number, in this case "12", above. German camouflage practice at the time called for a base coat of Dunkelgrau Nr.46 over-sprayed with Dunkelbraun Nr.45 in patches, and broad stripes.



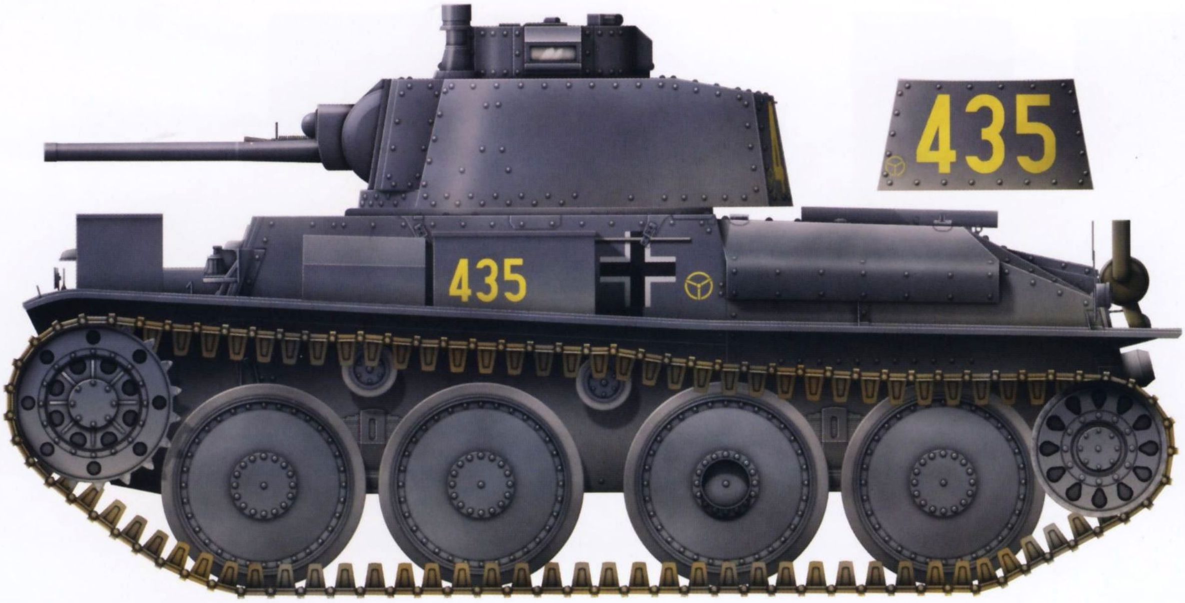
Panzerkampfwagen IV Ausf.D, 4.Kompanie, Panzer-Regiment 11, 6.Panzer-Division, Ostfront 1941

This plate is based on a color photograph, which shows almost the complete set of markings. The divisional insignia, "XX" is painted in yellow on the superstructure front plate, to the left of the driver's visor. It is repeated on the improvised jerry can rack fitted to the port-side track guard. Small yellow Tac numbers, in this case "421", are seen on both sides of the turret, below the view-port lids; this was probably seen on the turret rear. Black/white Balkenkreuze national insignia are seen on both sides of the superstructure, covering the view-port lids. A Balkenkreuz should also be seen somewhere on the Panzer's rear plate, along with the divisional insignia. This Panzer was finished overall in Dunkelgrau RAL 7021.



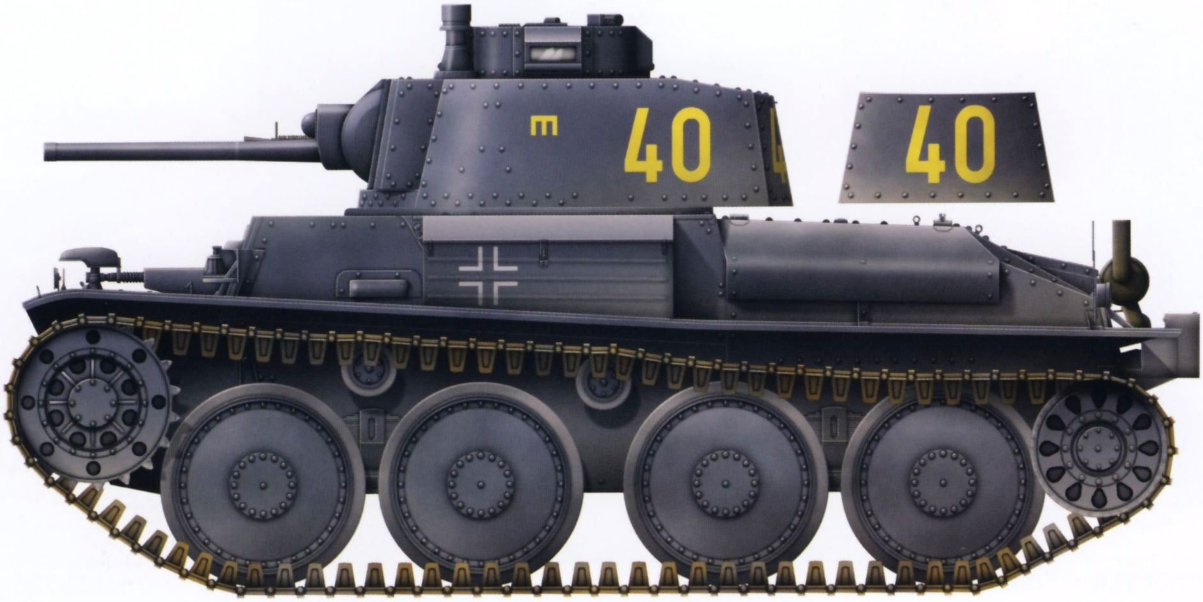
Panzerkampfwagen III(t) Ausf.A, 4.Kompanie, Panzer-Abteilung (verl.) 67, 3.leichte-Division, Poland 1939

This Czech-designed Panzer acted as a surrogate for the German-designed Pz.Kpfw.III and so was initially designated as Pz.Kpfw.III(t). It is finished in the standard colors of the time, Dunkelgrau Nr.46 over-sprayed with Dunkelbraun Nr.45 in patches, and broad stripes. Broad, solid white Balkenkreuze national insignia are painted on all four of the turret sides. A white outline of a Panzer rhomboid is seen low on the turret sides, aft. It probably had a fill color, in this case, red. Some Panzer had this on the turret rear, but without a Balkenkreuz. A small Panzer rhomboid was seen on both track-guards and on the superstructure rear, above the exhaust muffler; in this case it carried markings for 4.Kompanie, "411", in yellow.



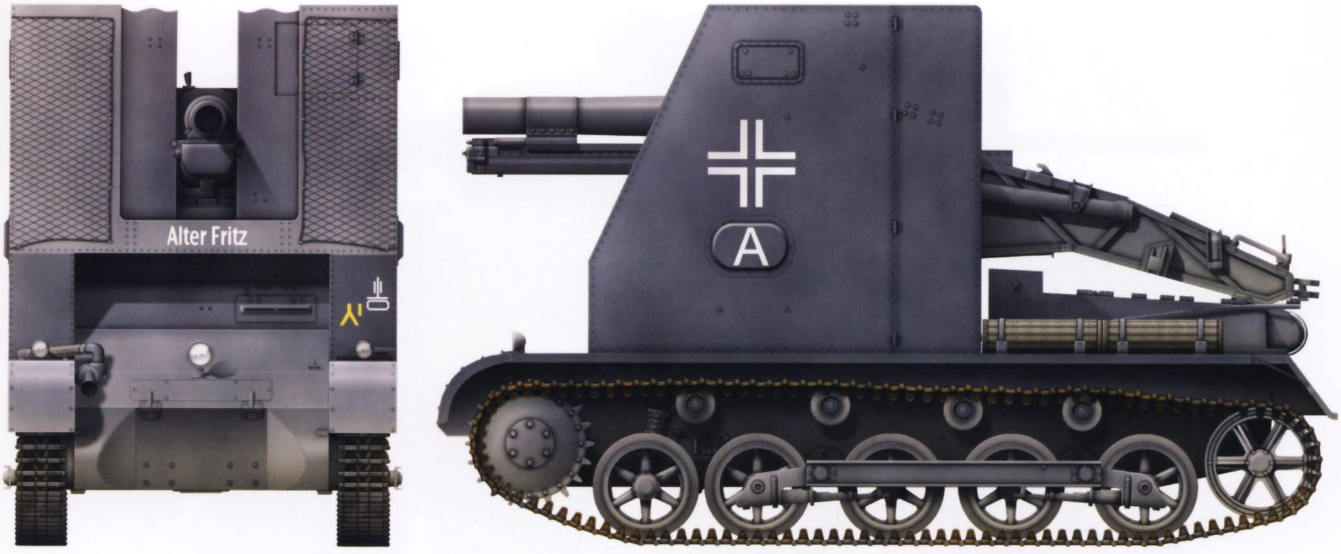
Panzerkampfwagen 38(t) Ausf.E, 4.Kompanie, Panzer-Regiment 29, 12.Panzer-Division, Ostfront 1941

This Panzer, by now re-designated as Pz.Kpfw.38(t), has been thoroughly re-worked by the unit to enhance its external stowage capabilities. The markings were applied to some of these items, such as the Tac number, "435", in yellow, seen on the port-side track-guard bin. This number was repeated on the starboard side and again, in much larger form on the rear face of the turret. The unit insignia, a ring surrounding an upright "Y", is painted in yellow on the port side of the turret's rear face, centered on the superstructure front plate between the MG mount and driver's visor, and on the port side of the hull, behind the national insignia. Presumably, it was also seen on the starboard side. A rather prominent white-outline Balkenkreuz national insignia appeared on the port and starboard hull side plates, aft of the stowage bins; it was probably repeated somewhere on the rear of the Panzer. The color is overall Dunkelgrau RAL 7021.



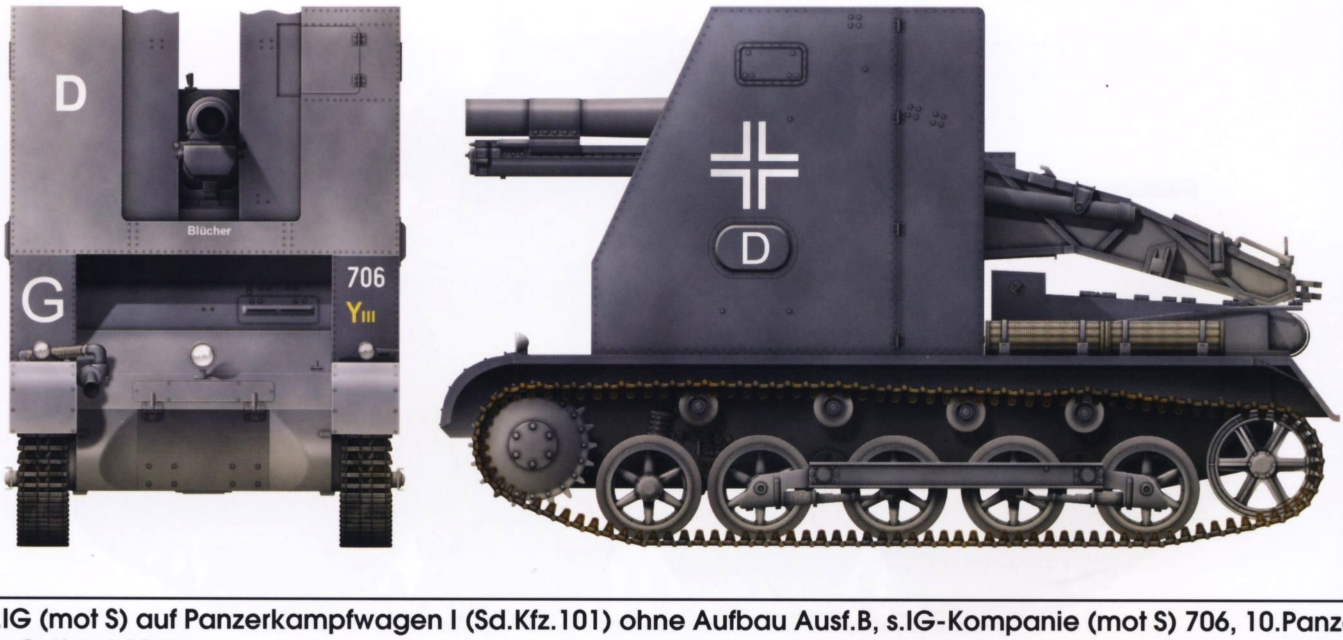
Panzerkampfwagen 38(t) Ausf.E or F, Panzer-Regiment 21, 20.Panzer-Division, Ostfront 1941

This Panzer is painted overall in Dunkelgrau RAL 7021. Based on three different photographs, it is apparent that the white-outline Balkenkreuze national insignia are only seen on each of the track-guard-mounted stowage bins; there was none on the rear of the hull. The unit insignia, a downward-facing "E" painted in yellow, is seen centered on the superstructure front plate, on the upper center of the turret sides and on the hull rear, centered above the engine access plate. The Tac number, "40" is painted in yellow towards the rear of the turret side plates and centered on the rear plate.



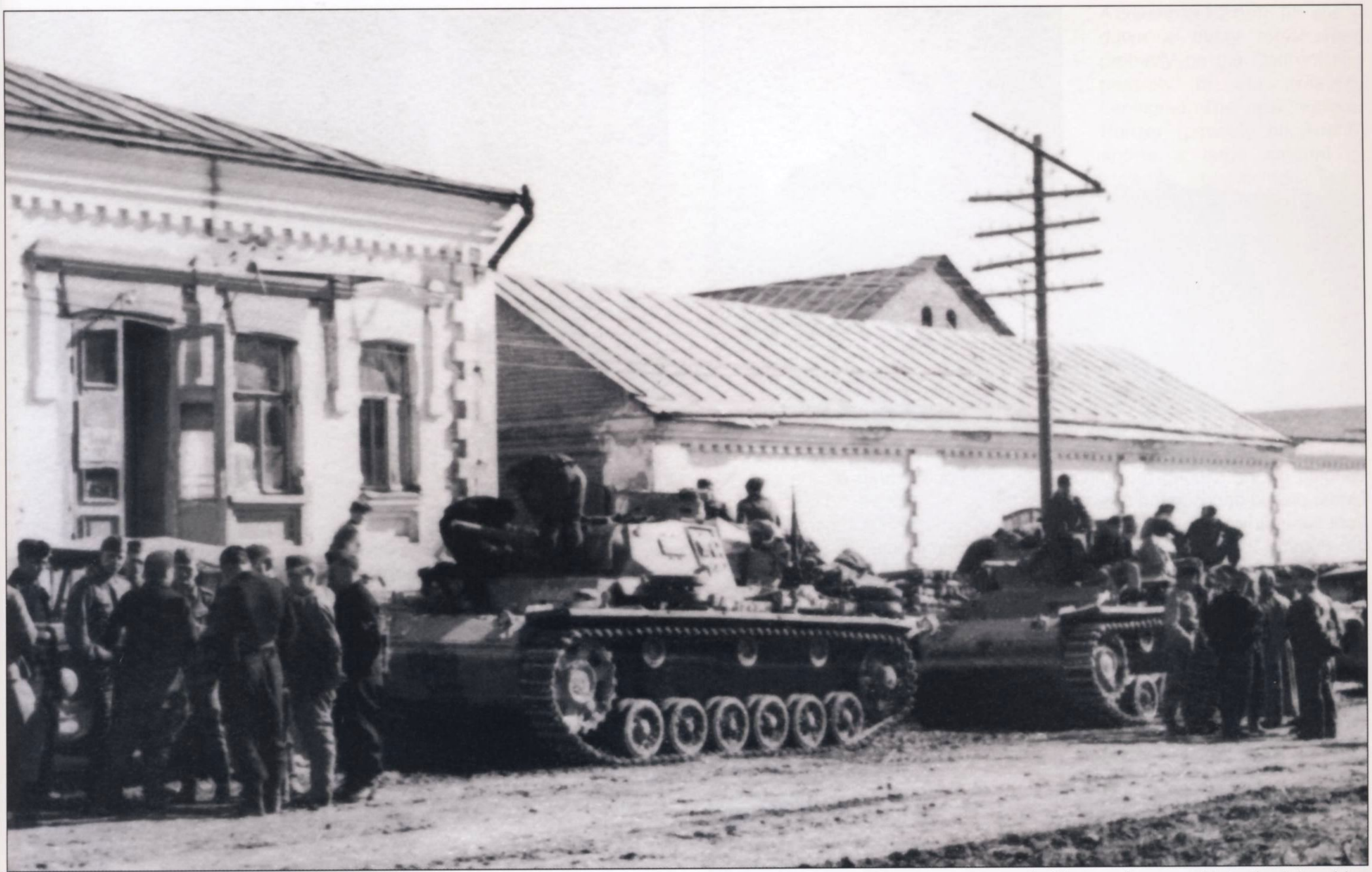
15cm s.IG (mot S) auf Panzerkampfwagen I (Sd.Kfz.101) ohne Aufbau Ausf.B, s.IG-Kompanie (mot S) 703, 2.Panzer-Division, Salonika, Greece, April 1941

One of the earliest tracked, self-propelled guns in the German's arsenal, "Alte Fritz" (Old Fritz) is a veteran of the French campaign that was extensively re-marked after being re-painted Dunkelgrau RAL 7021. It was attached to the 2.Panzer-Division for the assault into Greece as part of XVIII Gebirgs-Korps. The vehicle name in white is centered on the front superstructure plate, below the gun embrasure. A gun-in-battery letter, "A" is painted in white on the oval cover seen on both sides of the superstructure. Below this is a thin, black and white Balkenkreuz national insignia; a smaller version appeared on the hull rear plate, on the port side. Also added in yellow was the insignia of the 2.Panzer-Division; above and to the right of that is a tactical symbol for a unit equipped with a tracked infantry gun.

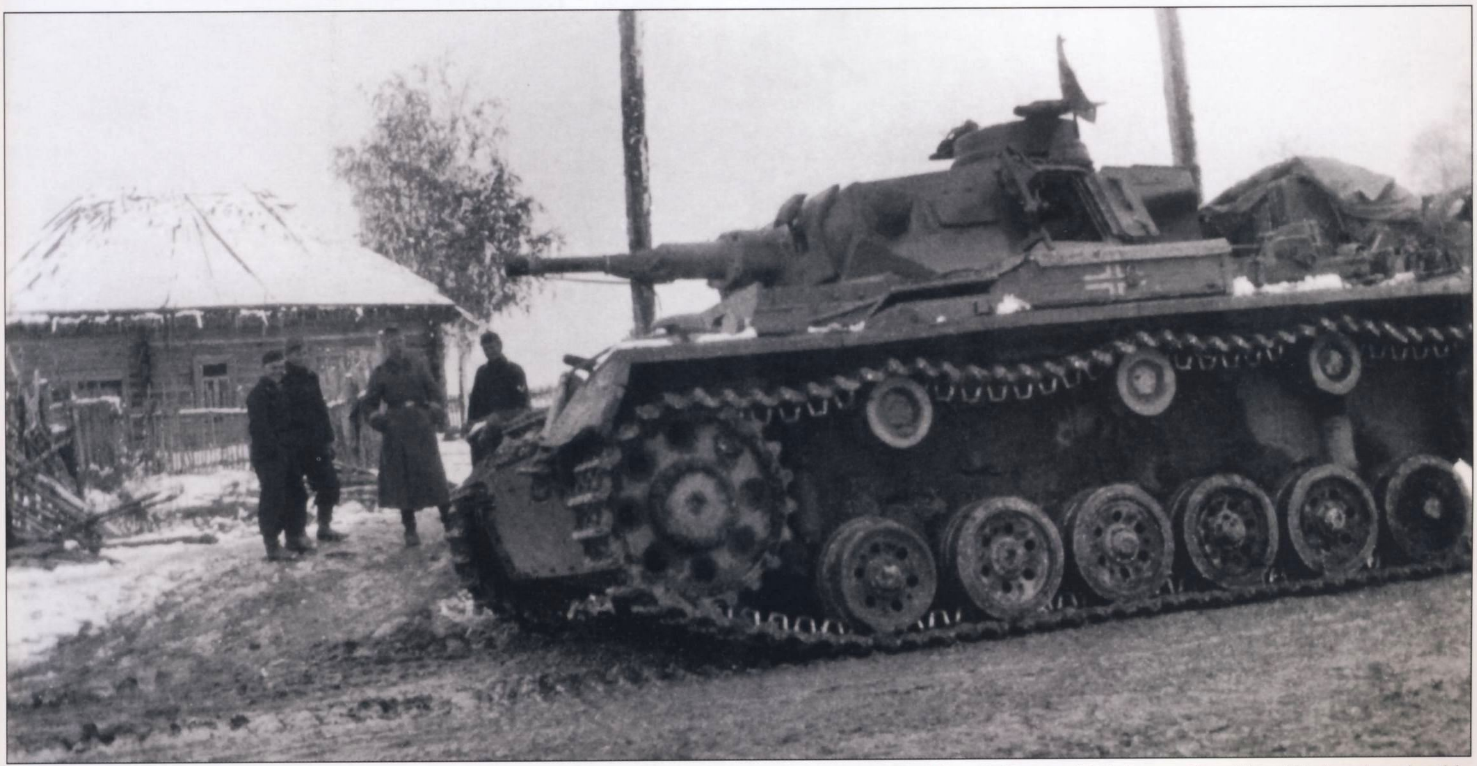


15cm s.IG (mot S) auf Panzerkampfwagen I (Sd.Kfz.101) ohne Aufbau Ausf.B, s.IG-Kompanie (mot S) 706, 10.Panzer-Division, Ostfront 1941

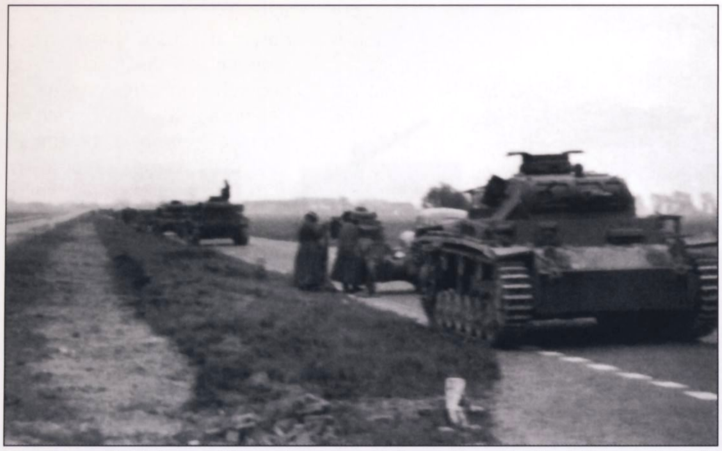
When the division entered the Soviet Union as part of Heeresgruppe Mitte's Panzer-Gruppe 2, it had this gun attached to it. Therefore, the division's insignia at the time, an upright "Y" with three vertical strokes, was painted in yellow on the lower port side of the superstructure. Above it is the company designator, "706" in white. On the opposite side of the superstructure a large white "G" for Guderian is also seen, while the name "Blücher" is painted in very small white characters, centered below the gun embrasure. The final marking on the front is a gun-in-battery letter, "D", also in white. The latter is repeated on the oval cover on the superstructure sides. The Balkenkreuz national insignia appears in white-outline style on the superstructure sides, above the "D" and again on the hull rear plate, to the port side. This vehicle is painted overall in Dunkelgrau RAL 7021.



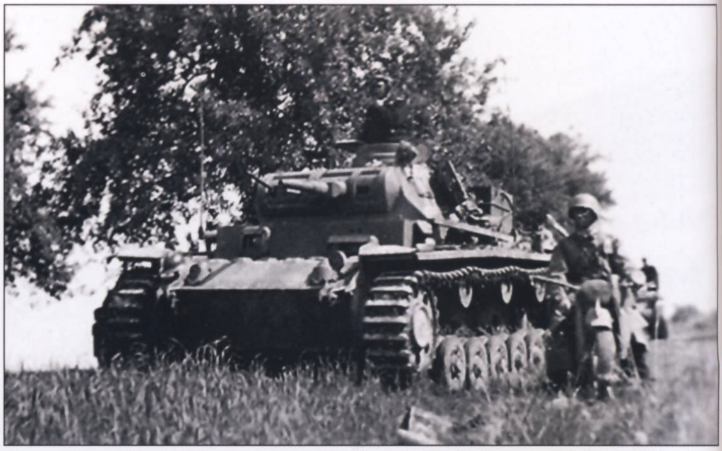
A pair of Pz.Kpfw.IIIs, the lead one possibly an Ausf.E, are parked in a Greek town as a group of Panzer crewmen hold a conference. Note the later drive sprocket and idler wheels, introduced on the Ausf.H and the wider 40cm track links on the nearest mittlerer Panzer; these could also be retrofitted as is probably the case here. Again, stowage abounds on the rear decks of the Panzer and at least the first one is armed with the short 5cm KwK.



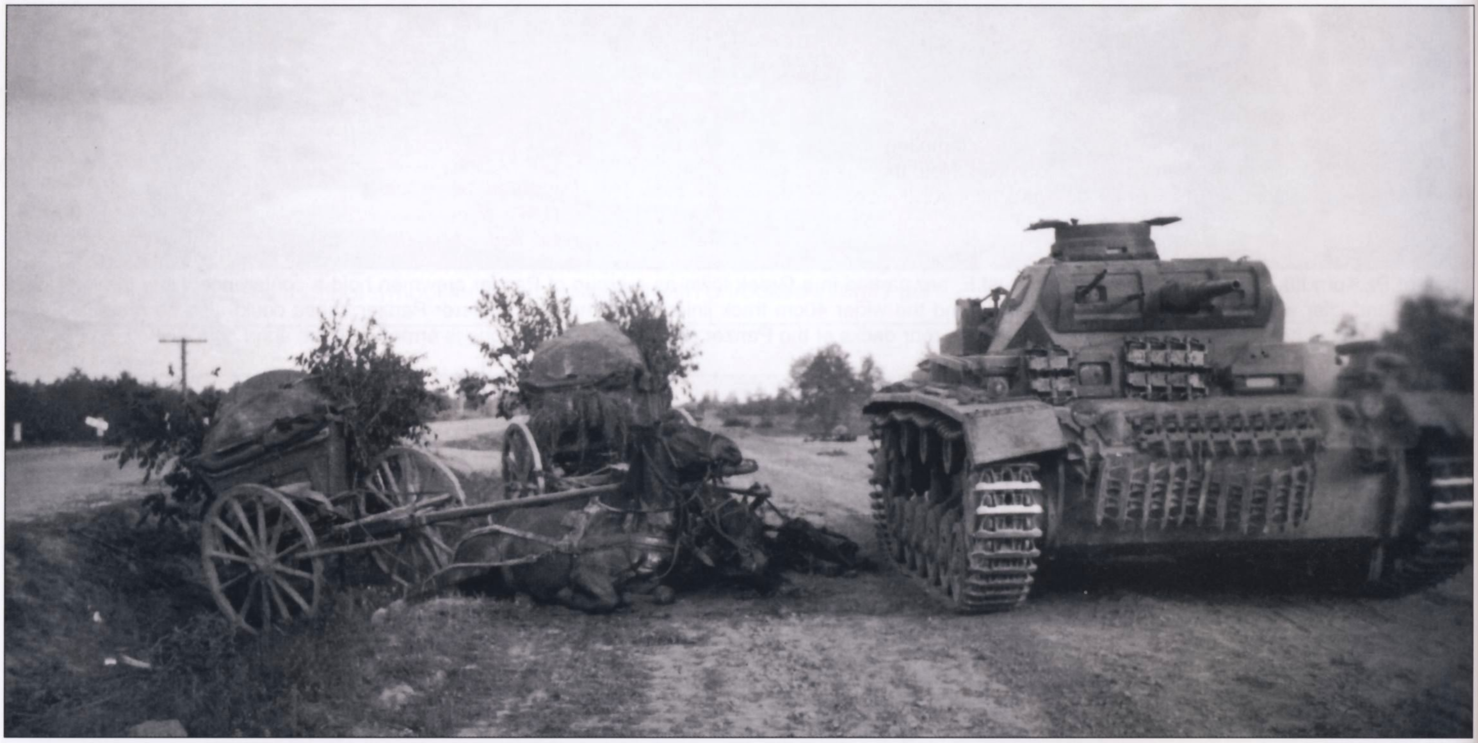
This Pz.Kpfw.III Ausf.E or F has the unique white-outline bison insignia of Panzer-Regiment 7, of the 10.Panzer-Division on the side of its turret and a thin white-outline Balkenkreuz national insignia on the stowage box fitted to the near-side track-guard. Although the drive sprocket is of the earlier type configured for 38cm tracks, it has probably had a spacer ring installed so that it can mount 40cm tracks. The presence of the latter is indicated by the road-wheels (note the lack of rubber rim on the first one) which appear to be the wider types introduced along with the other changes to the suspension system. That this is the case is further reinforced by the bolted-on Zusatzpanzerung (appliqué) armor plates on the bow and the superstructure front plate. The widened road-wheels and tracks were part of the modification package that enabled the ground pressure to remain manageable despite the increased weight of the extra armor.



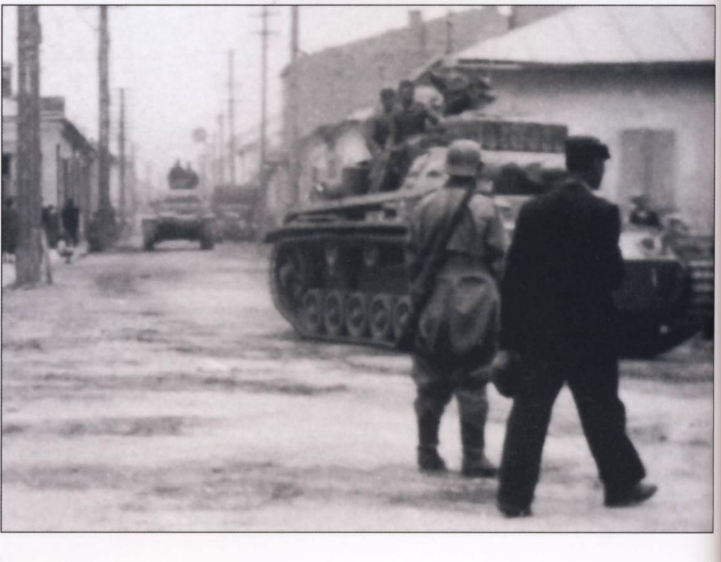
The type of highway this column occupies suggests that this unit is in Germany on the Autobahn. The lead AFV is a Befehlspanzer III Ausf.E, as denoted by the second rod antenna and stowage trough on the port-side fender placed opposite the one seen on the starboard side, no MG34 on the front superstructure plate and a single, flexible MG34 in the mantlet, next to the dummy 3.7cm KwK. Note also the Rahmenantenne (frame antenna) fixed to the engine deck; the lack of a main gun and the resulting non-rotating turret allowed for this latter feature to be fitted.



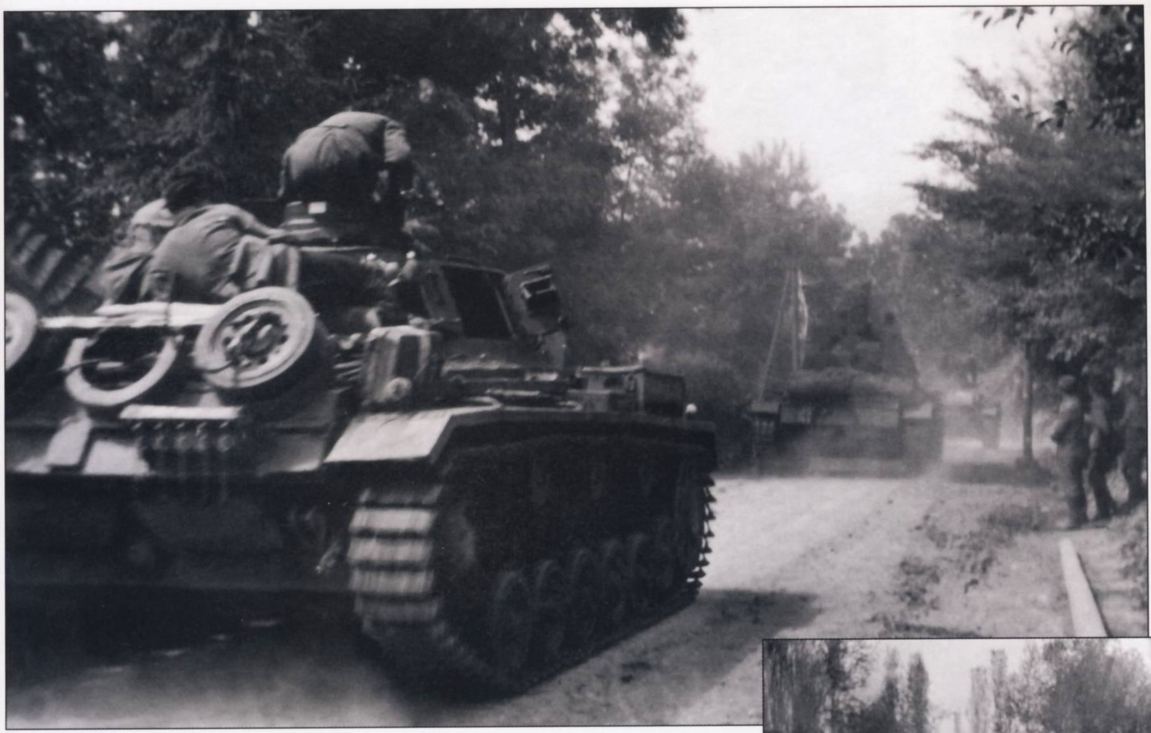
Several readily-visible features identify this Befehlspanzer III Ausf.E. They include a second rod antenna and stowage trough on the port-side fender placed opposite to that on the starboard side, no MG34 on the front superstructure plate and a single, flexible MG34 in the mantlet instead of the twin co-axial weapons. The 3.7cm KwK has also been replaced with a dummy gun tube to help disguise the true function of this vehicle. Since there was no main gun, the turret was fixed, which allowed for the extensive stowage seen on the rear deck



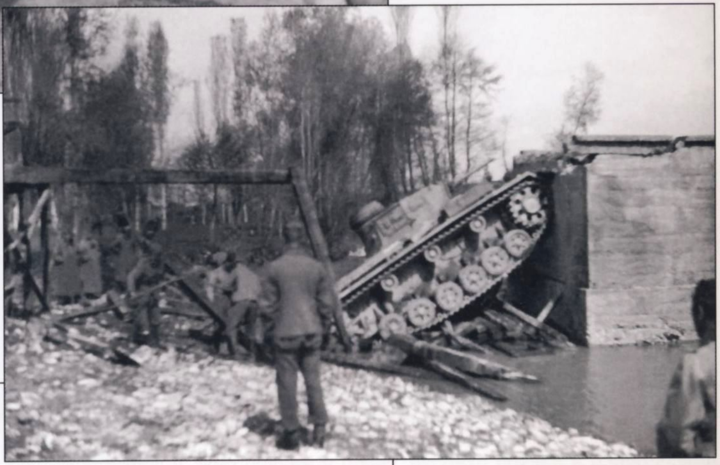
Yet another Befehlspanzer III Ausf.E is pictured, this time seen in the Soviet Union during Operation Barbarossa. This apparently experienced crew has placed spare track links for added protection on the bow and forward superstructure plate. Note the deleted MG34 at the radio operator's position; for self-defense a small MP-Stopfen (machine-pistol port with armored plug) has been fitted within the original armored collar. The flexible MG34 in the gun mantle is clearly visible as is a fixed dummy MG between it and the equally fake 3.7cm KwK. This Befehlspanzer has also been fitted with a Notek black-out driving head-lamp on the port side track-guard, a feature not commonly seen until after the end of the 1940 campaigns in the west.



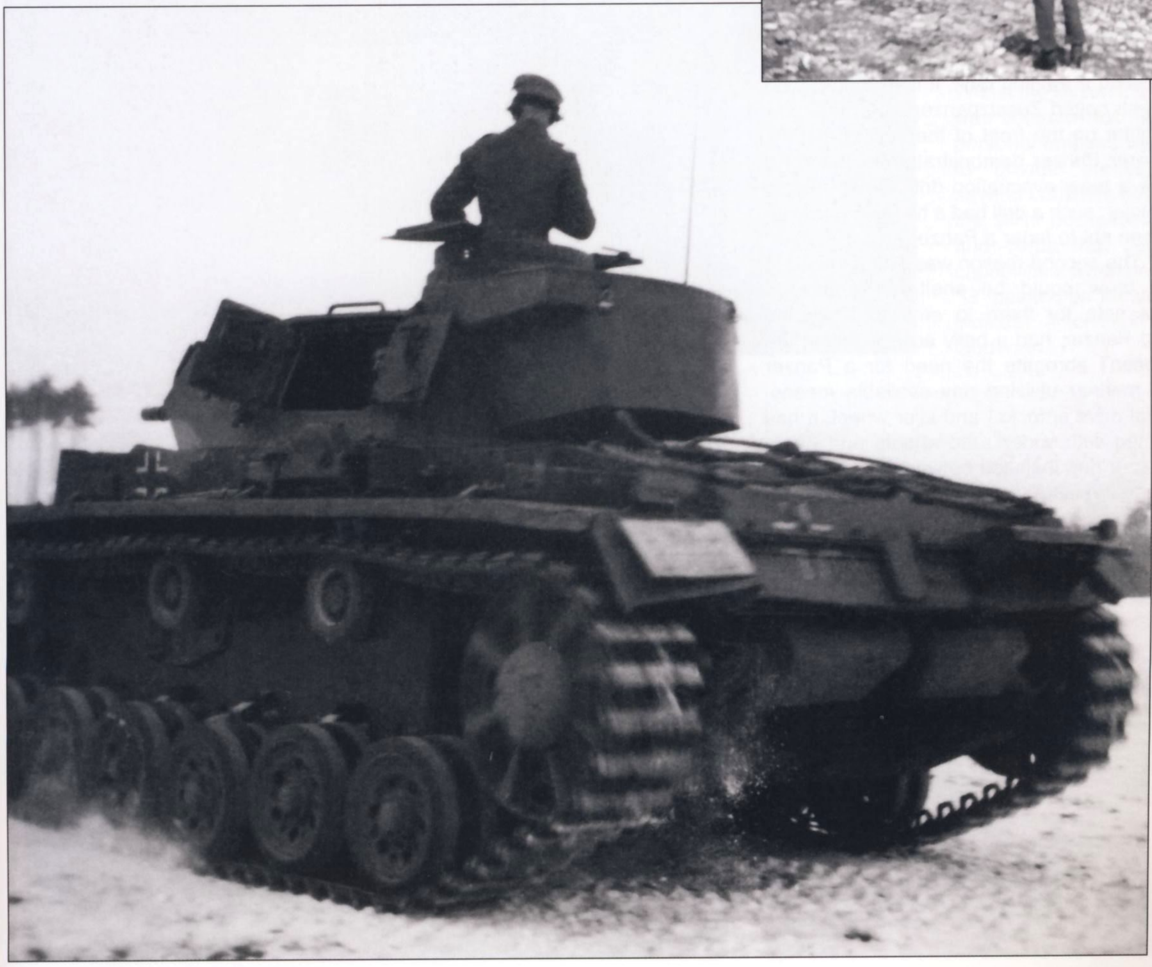
A Pz.Kpfw.III, probably an Ausf.F or G, armed with the short 5cm KwK passes through a city in the Yugoslavia or Greece during the campaigns in the spring of 1941. Although the actual gun tube cannot be seen, the external mantlet and the armored sleeve over the recuperator identifies the armament type. Note the armored guards that cover the cooling air intakes fro the brakes on the glacis plate, the un-ditching bream on the track-guard and the stowage of 20-liter jerry cans on the turret's roof. The soldier in the foreground, who is probably a Feldgendarm (Military Policeman) wears the special weather-proof "Kradmantel" commonly worn by motorcyclists as he directs traffic.



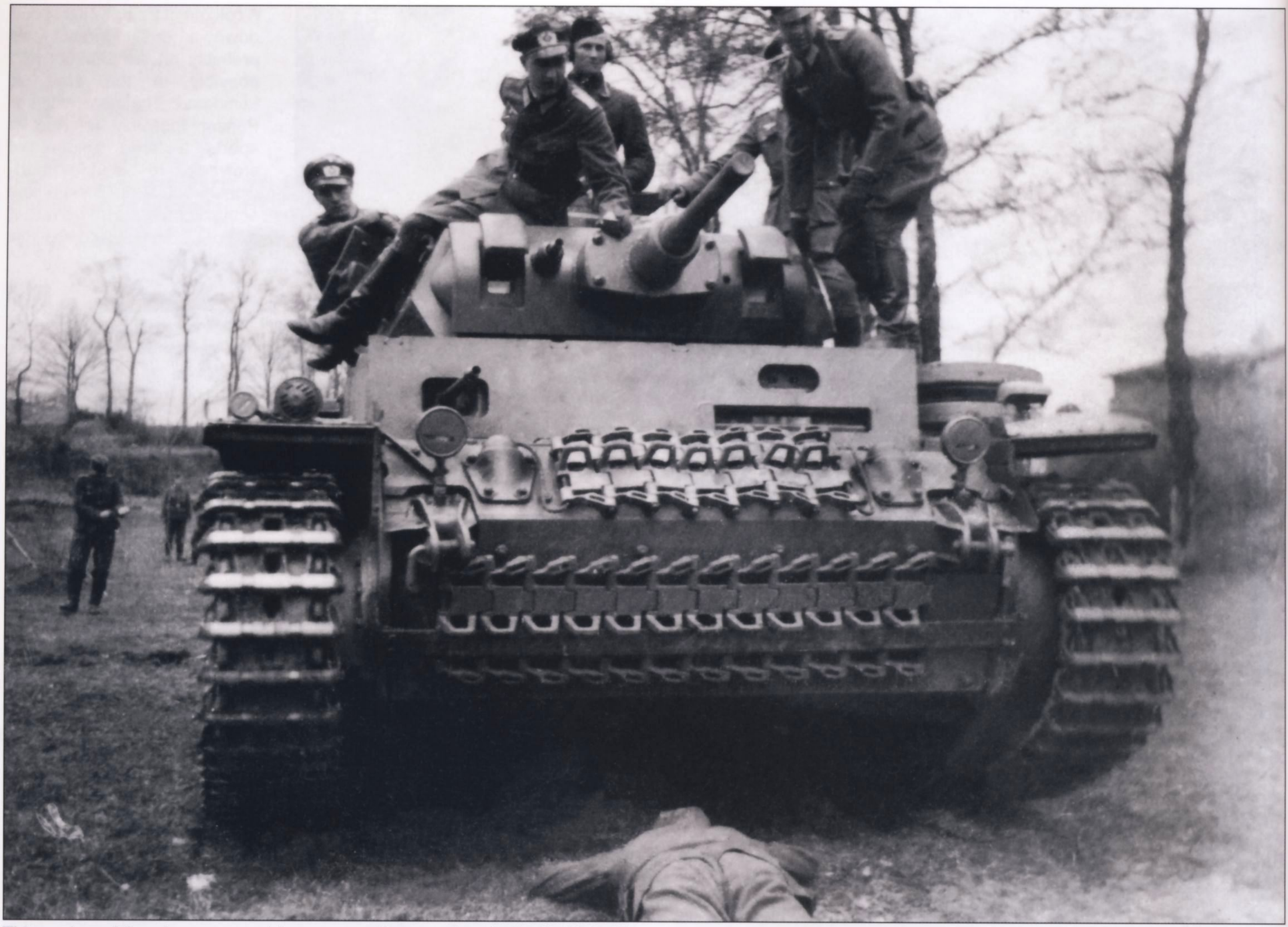
A column of Pz.Kpfw.IIIs speed down a dusty forest road probably on the Ostfront and possibly in the area of Leningrad. The near mittlerer Panzer (possibly an Ausf.F) sports a large amount of stowage, to include road-wheels seated in custom-built semi-circular stowage racks; an empty rack is at center. The vehicle also mounts a Gepäckkasten (baggage bin) on the rear of the turret and a Nebelkerzenabwurfvorrichtung (rack to deploy smoke candles) on the superstructure rear. The middle Pz.Kpfw.III is an Ausf.J or later, as indicated by the straight rear superstructure plate.



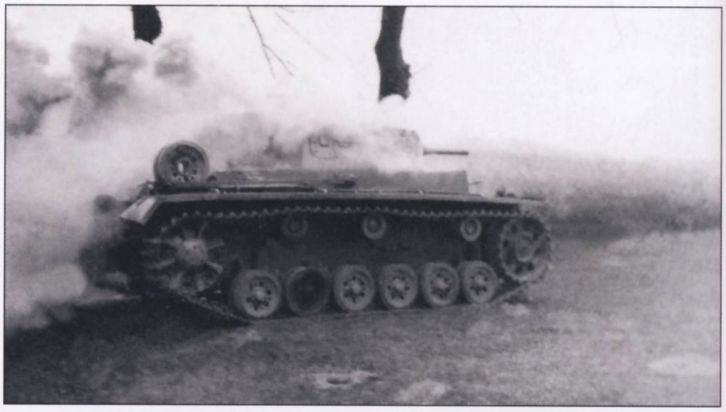
This Pz.Kpfw.III Ausf.G has come to grief while attempting to cross an improvised ramp connecting to an existing bridge pier. Note the bulge at the turret rear and the split hatch lids on its side; this mittlerer Panzer has also been fitted with a 5cm KwK L/43. In addition, the crew has fitted a large stowage locker on the near-side track-guard.

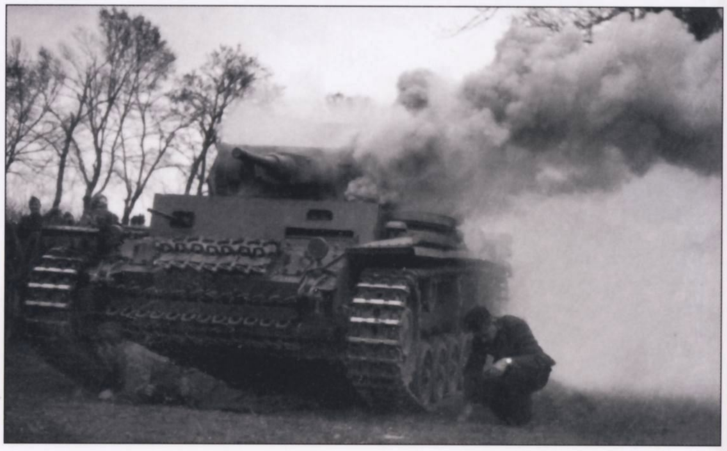


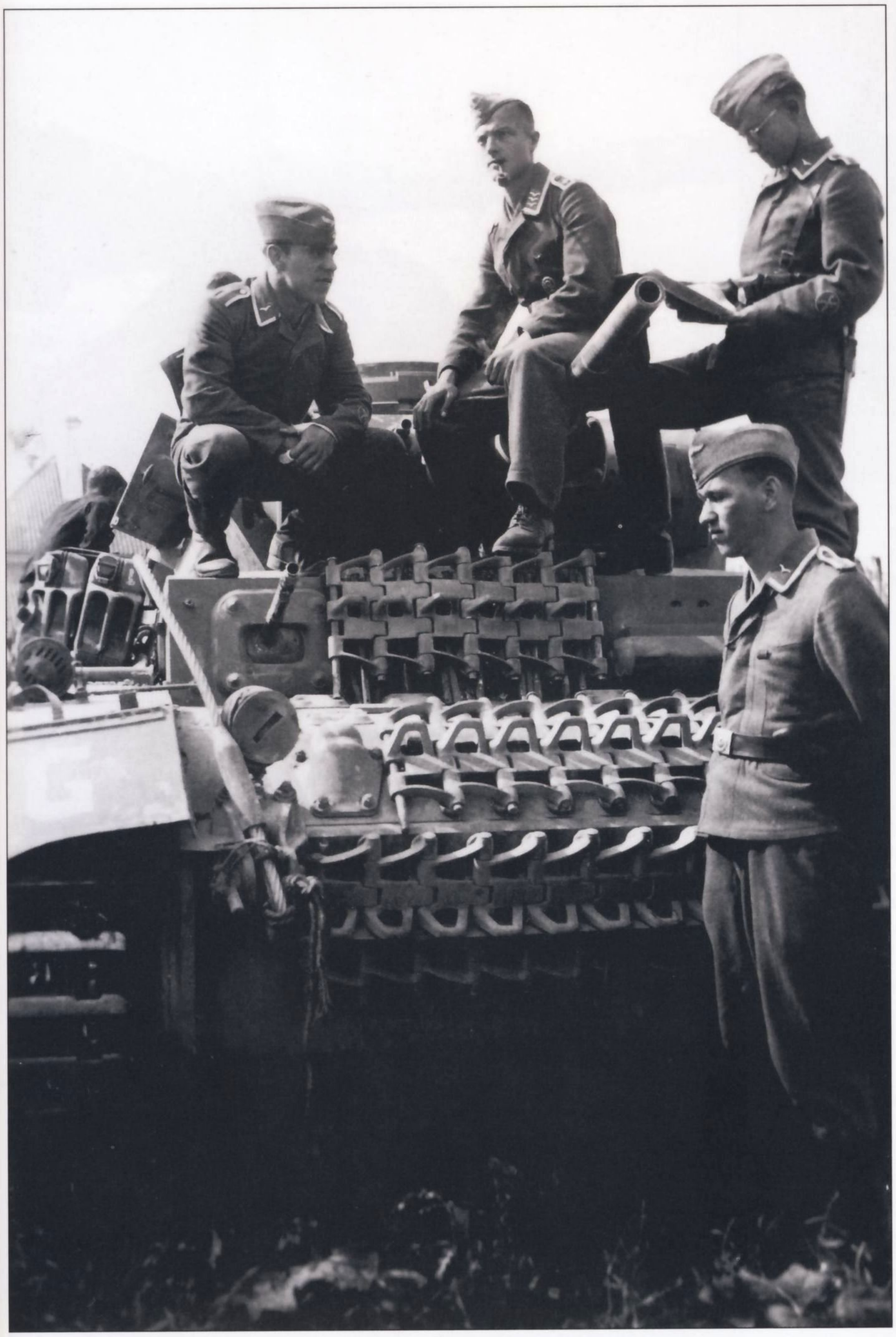
Mounting an unusually-configured Gepäckkasten (baggage bin) on the rear of the turret, and a Nebelkerzenabwurfvorrichtung (rack to deploy smoke candles) on the superstructure rear, this Pz.Kpfw.III makes its way through a thin layer of snow, possibly during a training exercise. Note the almost complete lack of extra stowage, other than the standard tools and cables fitted at the factory, and the separate plate on the mud-flap on the near-side track-guard; unfortunately the writing on the plate is not legible, although it may designate this vehicle as a Fahrschulepanzer (driver training tank).

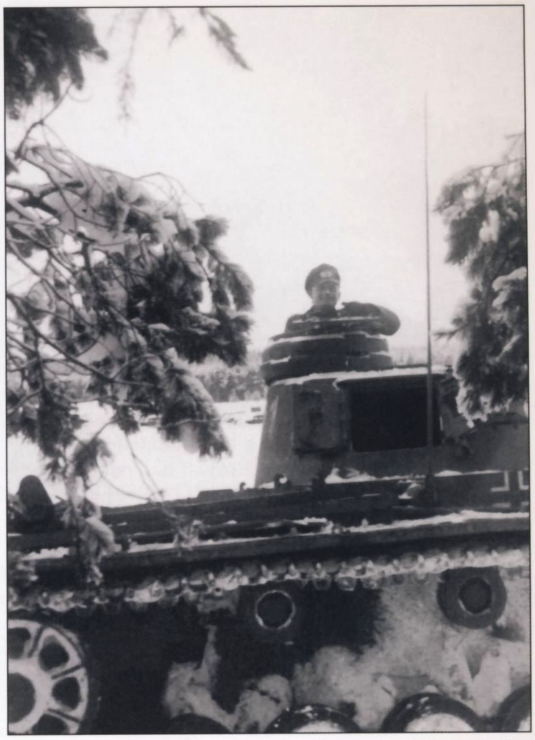


This series of four images provides a rare glimpse of a single Pz.Kpfw.III Ausf.G during a training exercise. Being a training tank, it is in rather good condition and has been retrofitted with bolted Zusatzpanzerung on the bow and a Vorpanzer (spaced armor) plate on the front of the superstructure. While spectators look on, the mittlerer Panzer demonstrates the use of a smoke screen probably to enhance a crew evacuation drill. Other images depict the vehicle passing over a soldier; such a drill had a two-fold purpose, the first of which was to condition men not to fedar a Panzer as it "ran over" them when they were under attack. The second reason was that if forced to abandon their own Panzer, the crew could be sheltered under an accompanying Panzer until it was safe for them to emerge. Only the Pz.Kpfw.IV, of all German-produced Panzer, had a belly access hatch; the fact that a Pz.Kpfw.III did not, doesn't abrogate the need for a Panzer crewman to be trained in such a manner utilizing any available means. Although this Ausf.G has the original drive sprocket and idler wheel, it has been up-armored and therefore fitted with wider road-wheels and 40cm tracks; the drive sprocket had a spacer ring installed between its inner and outer halves in order to accommodate the latter.







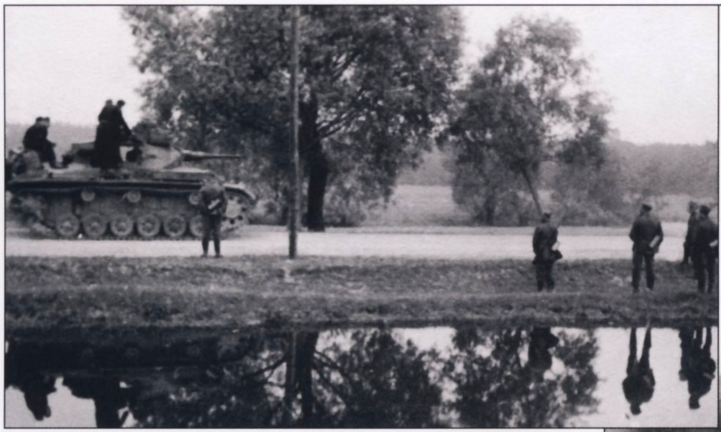


A later version of the Pz.Kpfw.III, an Ausf.H (note the non-bulged rear plate of the turret, split side access hatch lids and the larger diameter road-wheels) takes part in winter exercises, probably in early 1941. Note also the white-outline Balkenkreuz national insignia on the superstructure side plate and the raised rod antenna.

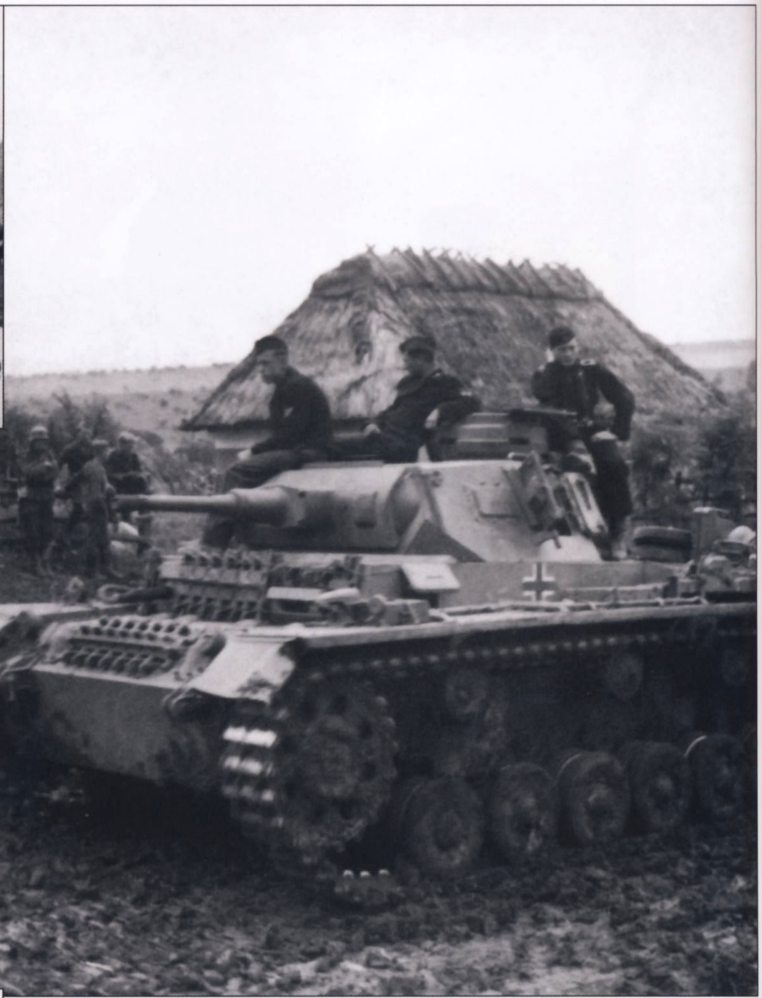
The Luftwaffe (air force) uniforms worn by the crew of this Pz.Kpfw.III Ausf.G leave no doubt as to the unit affiliation of their mittlerer Panzer; it certainly belongs to the Fallschirm-Panzer-Division "Hermann Göring". Within the Byzantine workings of the Nazi government, it was common for highly-placed officials to create their personal empires; along with this came what amounted to "private" armies. In Göring's case this included several Luftwaffe airborne and field divisions. Aside from the skills possessed by some individuals, the division and corps that carried his name had no airborne capabilities whatsoever. Another curiosity is the white "G" painted on the visible mud-flap; normally, this would indicate a division subordinated to Panzer-Gruppe Guderian.

A column of Pz.Kpfw.IIIs, spaced far apart in a tactical road march raise a cloud of dust, probably in Greece or Yugoslavia. Note that the lead mittlerer Panzer has a 200-liter fuel drum on the engine deck and also mounts a short 5cm KwK with external gun shield.

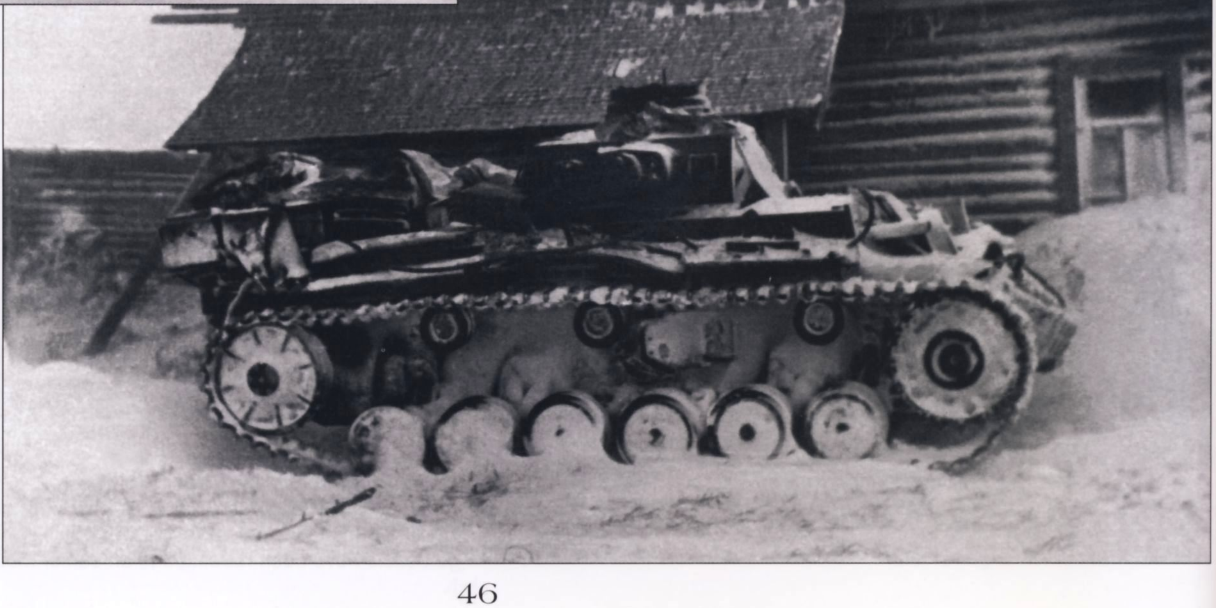
This Pz.Kpfw.III moves along a well-traveled and slightly muddy track, again quite possibly in southern Yugoslavia or northern Greece. Note the short 5cm KwK and the row of 20-liter jerry cans stored on the roof of the turret. At this distance, not many details can be seen, but the drive sprocket and idler wheel would have been last seen on new-production Ausf.Hs, while the main gun could have been retrofitted to an earlier model.



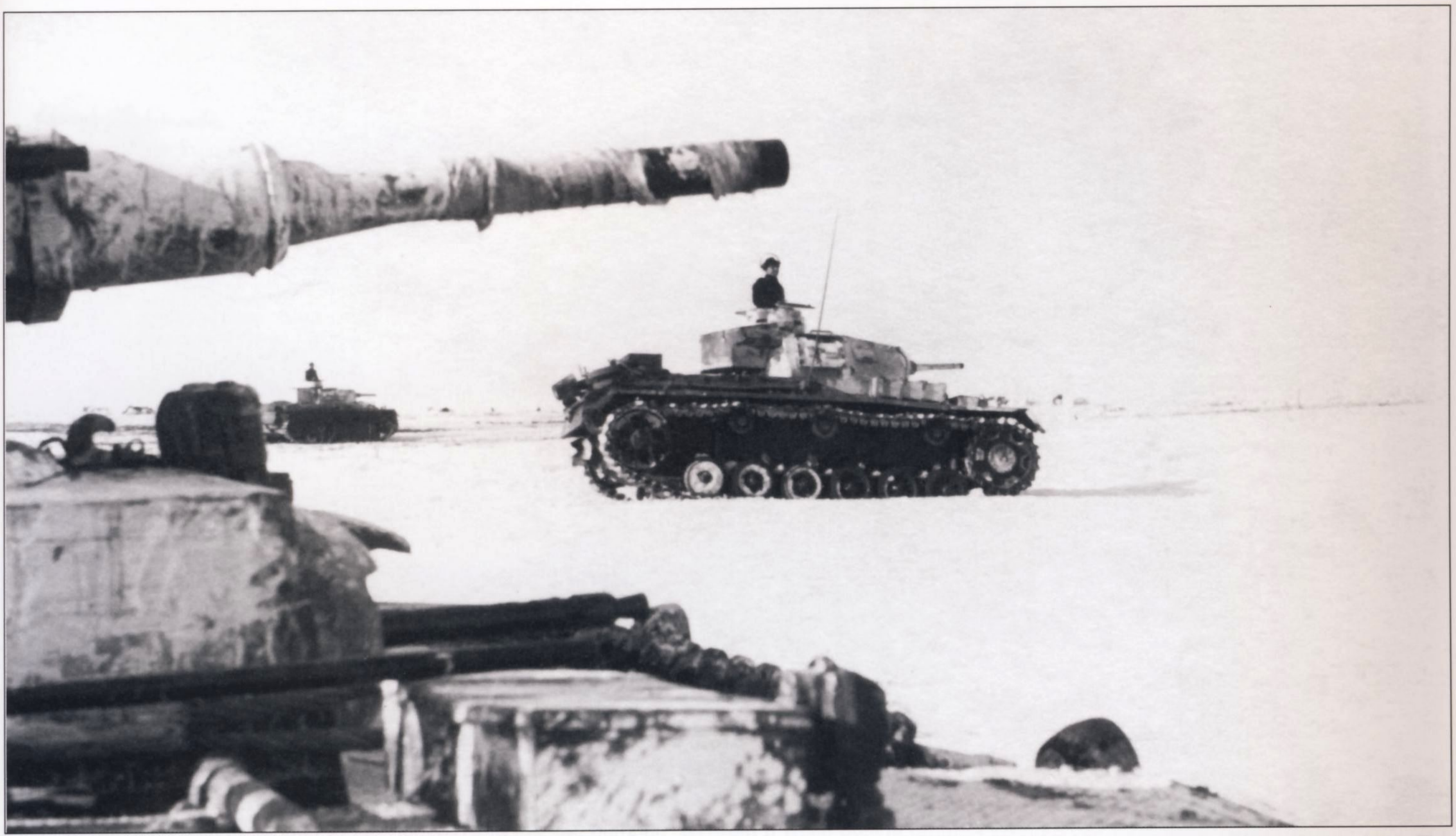
This Pz.kpfw.III moves along a hard-surfaced road probably during the offensives of April 1941. It has been fitted with a short 5cm KwK and has the drive sprocket/idler wheel combination last seen on new-production Ausf.Hs. Note the spacing between the first and second return roller and the escape hatch on the side of the hull; the crew has also fixed a stowage box onto the near-side track-guard and a row of 20-liter jerry cans on the turret roof.



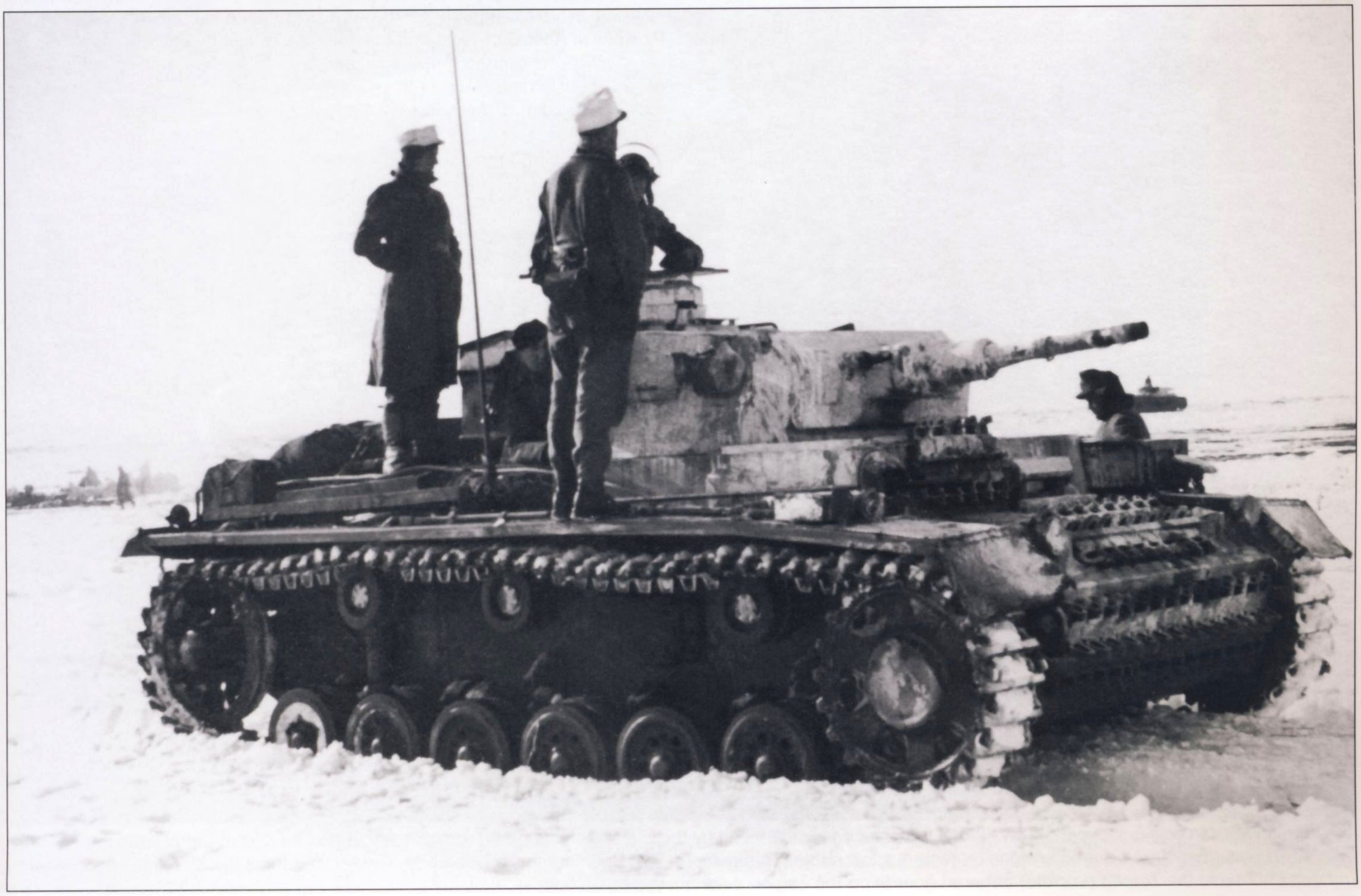
Passing a typical thatch-roofed dwelling somewhere on the Ostfront, this Pz.Kpfw.III Ausf.G or H seems to have been painted in the Tropen (tropical) camouflage scheme, but does not appear to have the modified engine deck access hatch lids usually seen on a vehicle painted in such a fashion at the factory. It mounts a short 5cm KwK and has a commander's cupola first seen on the Ausf.G. The only visible marking is a black/white Balkenkreuz national insignia seen on the side of the superstructure.

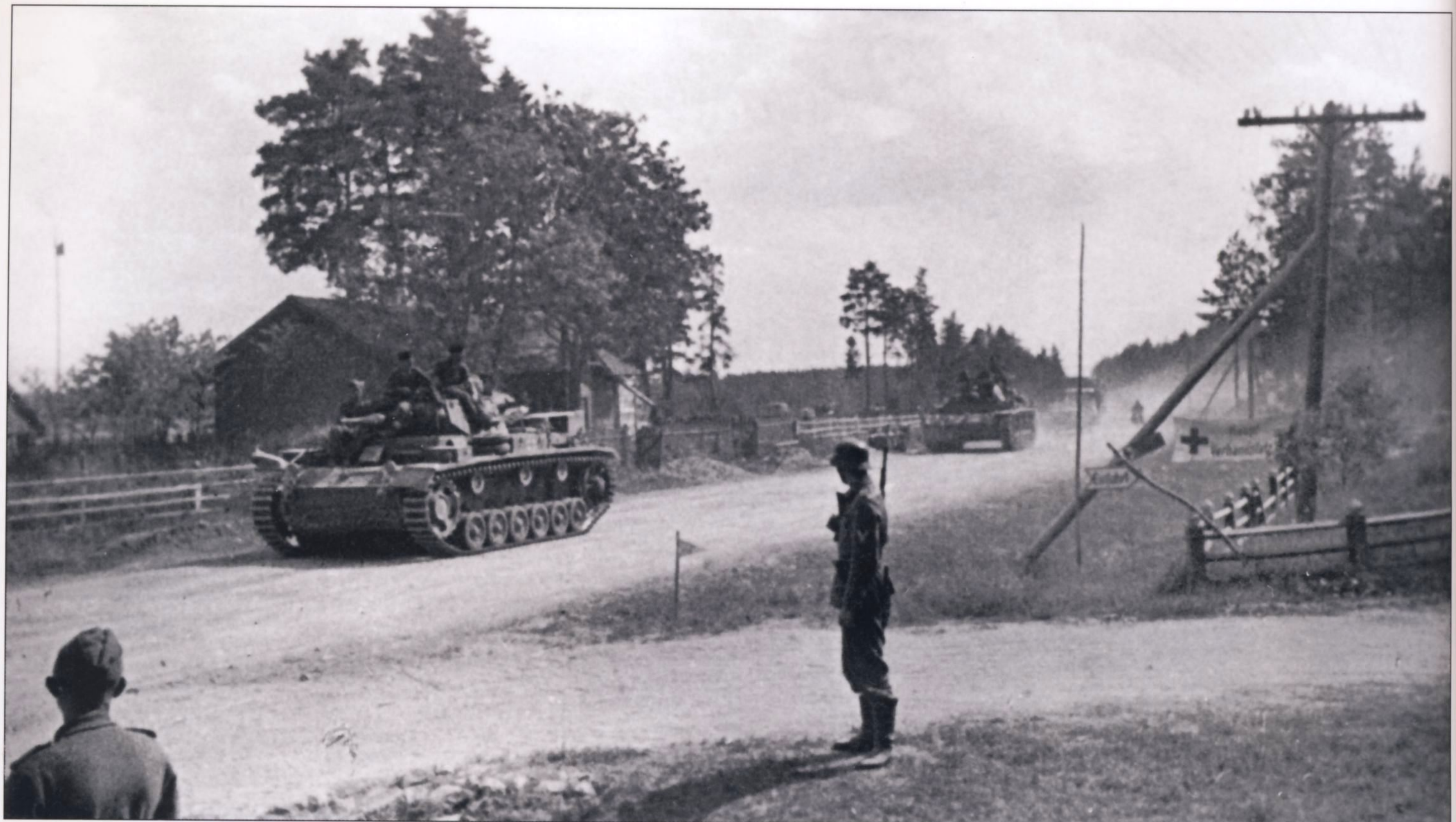


Seen on the Ostfront probably during the winter of 1941-1942, these two complimentary images show the same Pz.Kpfw.III so covered with snow that defining its precise model type is quite difficult. The mittlerer Panzer has been fitted with a short 5cm KwK with an external gun shield. Although the weather seems to be quite atrocious, the crew has nevertheless left the escape hatch lid on the hull side wall open to the deprivations of nature.

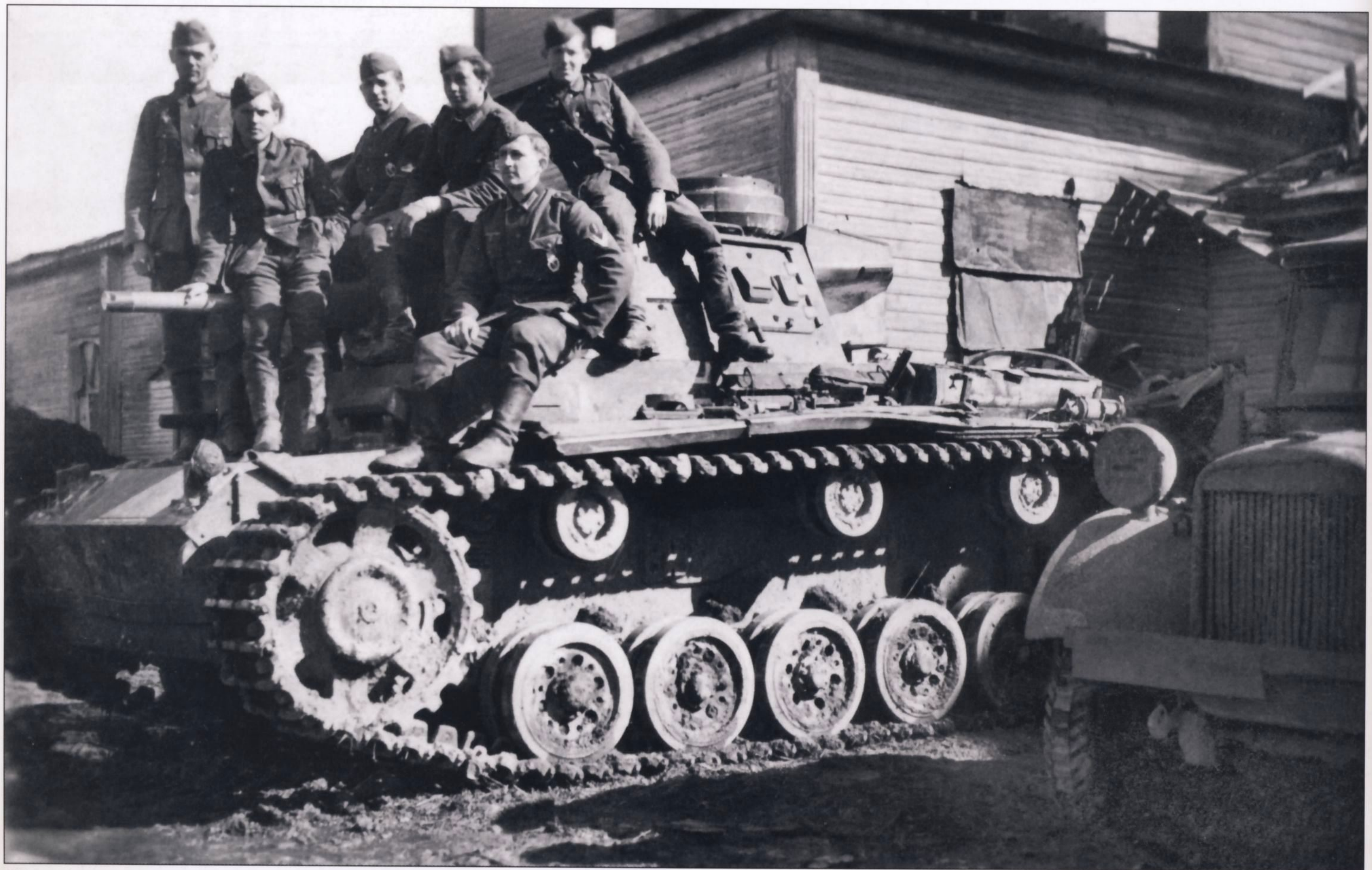


These Pz.Kpfw.III Ausf.Js are deployed in the classic wedge formation on the snow-bound steppes of the Soviet Union, during the winter of 1941-1942. The top image, depicting three mittlerer Panzer, clearly shows the spacing of the return rollers, especially the first two; note also that the nearest shows the Kugelblende 50 (machine gun ball mount for 50mm armor), first introduced on the Pz.Kpfw.III Ausf.J and the Pz.Kpfw.IV Ausf.F. This item alone removes any doubt as to which model of the Pz.Kpfw.III is depicted. Note also the small hull side wall extensions, which were drilled to accept tow hooks, another hallmark of the Ausf.J (or 8.Serie /Z.W.) chassis. The crews have applied a crude white-wash for winter camouflage, and have also draped spare track links on the frontal arc of their Panzer in an attempt to provide additional protection.

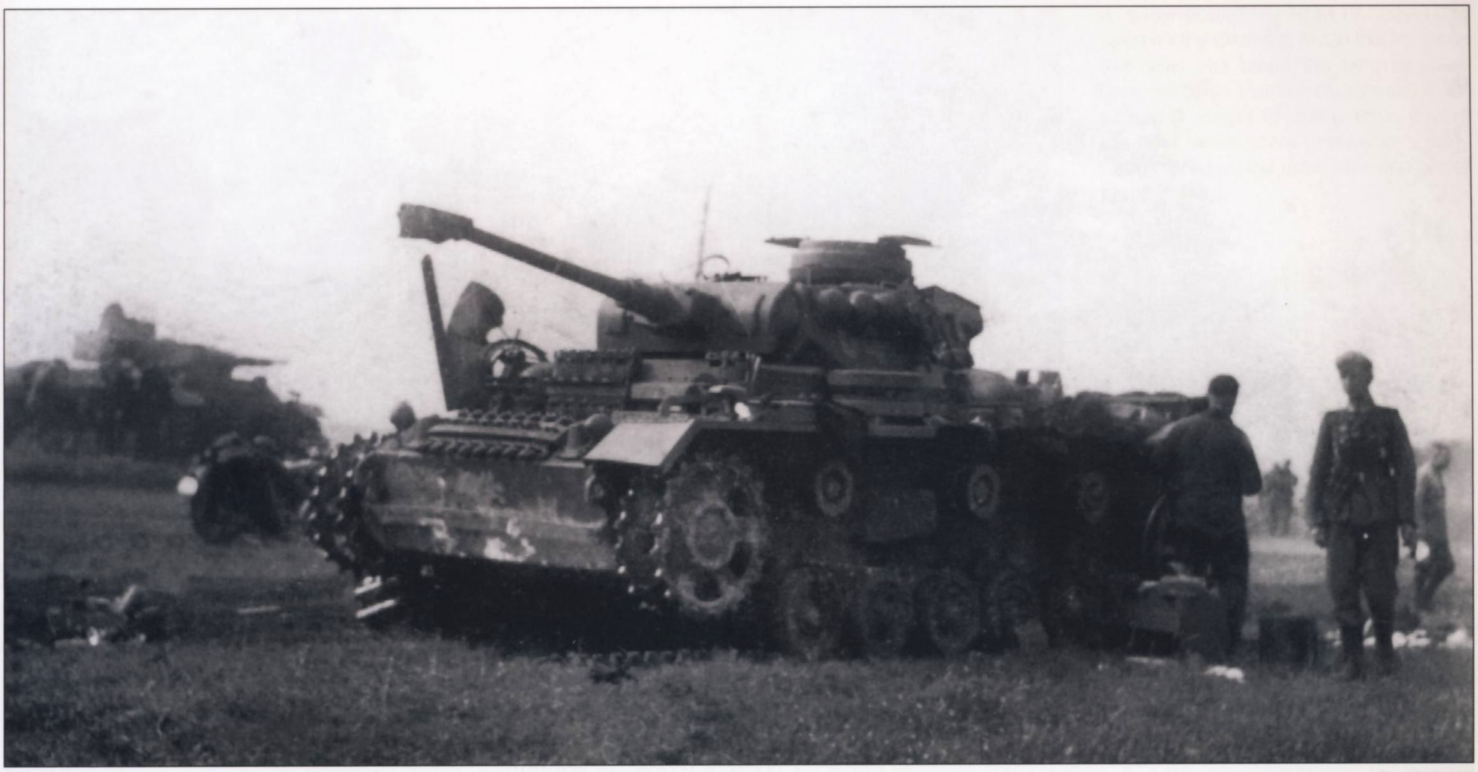




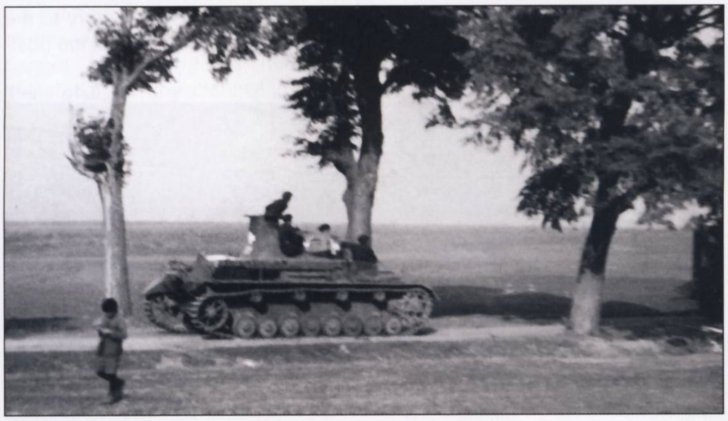
A Pz.Kpfw.III Ausf.J leads another similar mittlerer Panzer along a dusty road, quite probably on the Ostfront in 1942. The Pz.Kpfw.III mounts a short 5cm KwK with an external shield over the mantlet, has wider 40cm tracks and the associated drive sprocket, and also features the idler wheel type first introduced on the Ausf.H. The Fahrersehklappe 50 (driver's vision port for 50mm armor) on the superstructure front plate and the lack of the cast and then bolted-on tow cable hooks positively identify this as an Ausf.J.



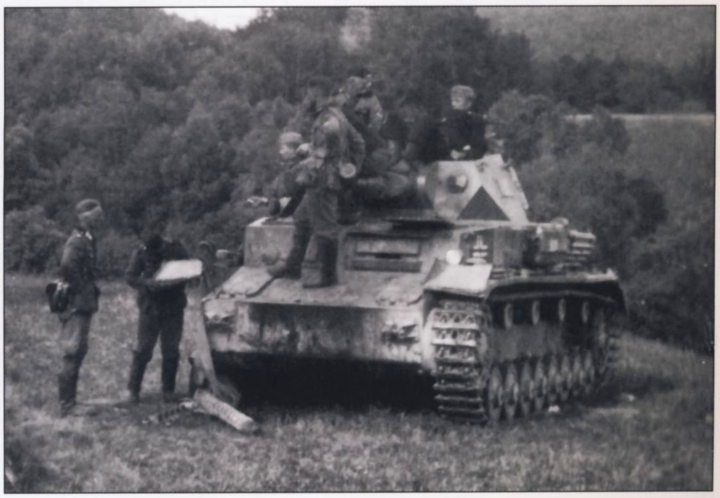
Although covered in soldiers, this Pz.Kpfw.III Ausf.J can be easily identified by the Fahrersehklappe 50 (driver's vision port for 50mm armor) and the hull side walls that have small drilled-out extensions to secure a tow cable. This mittlerer Panzer mounts the short 5cm KwK, still retains the hull side escape hatch and does not have the Tropen (tropical) armored guards on the engine deck access hatch lids.



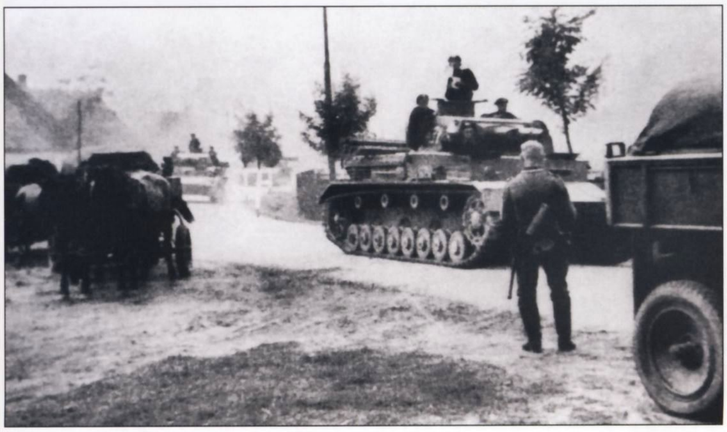
In 1942, as Germany's Panzer still achieved victories in certain quarters, new armament was retrofitted to existing types. What started life as a Pz.Kpfw.III Ausf.J (note the early-style hull with escape hatch on the side wall) has been up-gunned with the long 5cm KwK L/60 main gun; this eventually resulted in its model designation being changed to the Ausf.L. Note the Tac number, "04" with a white outline on the forward side of the turret on this damaged mittlerer Panzer.



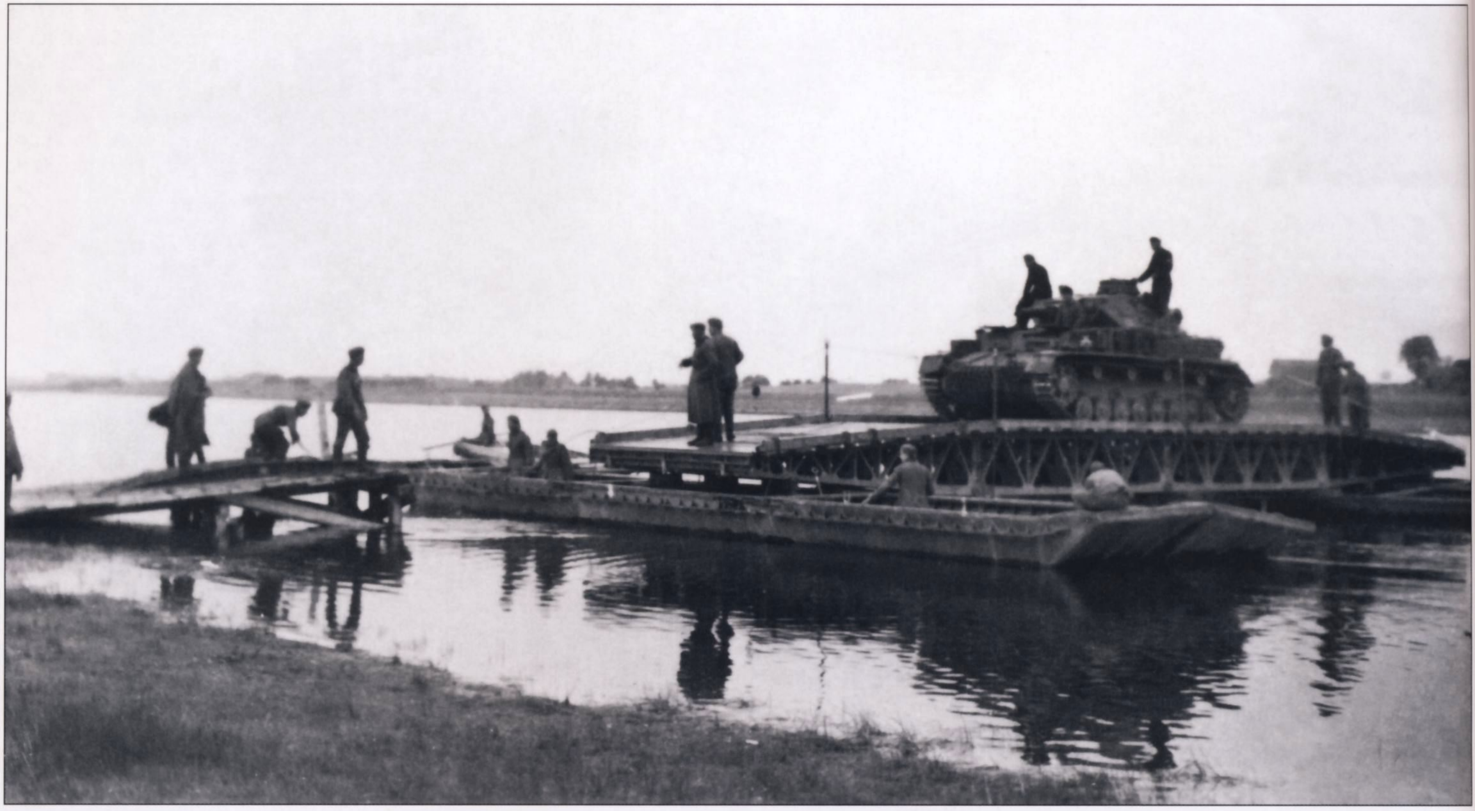
A Pz.Kpfw.IV Ausf.A, probably from the 5.Panzer-Division, races along a road during the Polish Campaign in September, 1939. Note the large solid white Balkenkreuz national insignia on the side and rear of the turret; normal practice at the time called for the national insignia to be visible from all four points of the compass, so there would most probably be one on the superstructure front plate. A solid white Panzer rhomboid, associated with the 5.Panzer-Division can be seen on the rear face of the turret, while the configuration of the commander's cupola positively identifies this Pz.Kpfw.IV as one of 35 Ausf.As built.



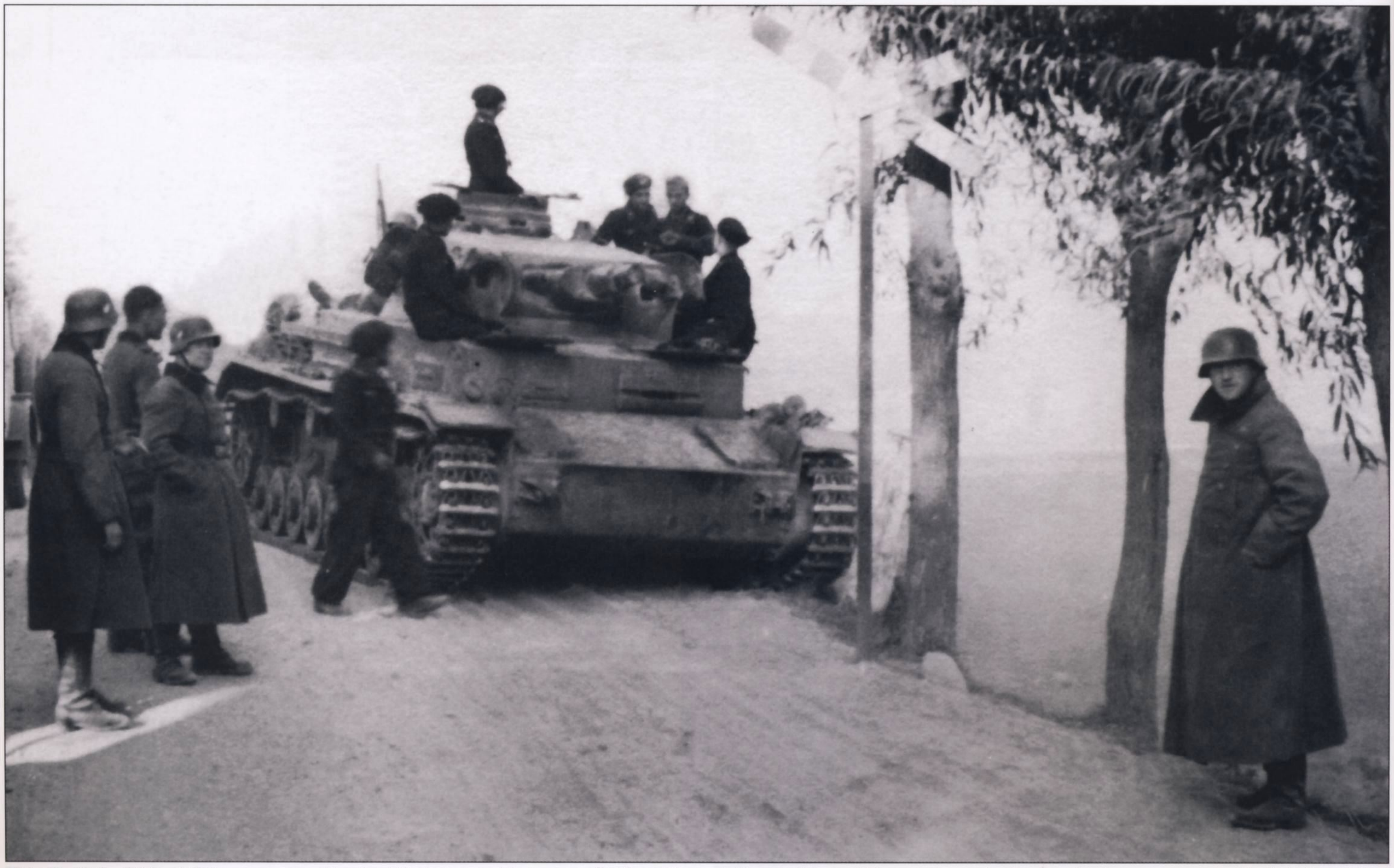
This Pz.Kpfw.IV Ausf.B or C has come to grief on the typically-rolling Yugoslavian countryside during the spring of 1941. Note that the tracks on the starboard side of this mittlerer Panzer have become separated and that its associated drive sprocket is nowhere to be seen. The raised port-side mud-flap almost completely hides the Notek black-out driving head-lamp, a feature that was only commonly seen after the 1940 campaigns. This Pz.Kpfw.IV is identified as an Ausf.B or C by the raised configuration of the brake compartment access hatch lids, and the superstructure front plate configuration. The heavy coat of dust has obscured any markings that may have been visible except for the white-outline Balkenkreuz national insignia; apparently, someone has taken the time to clear the dust off of it.



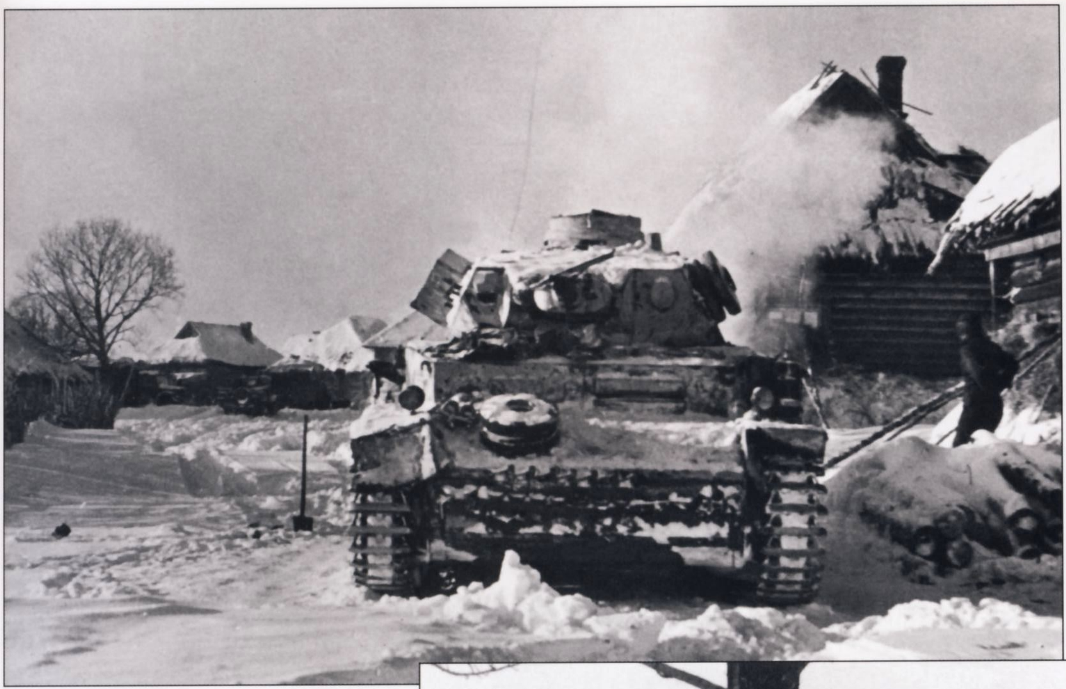
What appears to be a Pz.Kpfw.IV Ausf.A leads another mittlerer Panzer down a dusty road probably during the 1940 campaign in the west. The model is identified by the profile of the commander's cupola and the opened split hatch lids above the driver and radio operator's stations. Note the indistinct Tac number on the turret side walls and the visible crewmen wearing their berets; the driver is "heads-down" as he is busy controlling his vehicle. The crew has also stowed several beams across the rear-most part of the engine deck for use in helping them to "un-ditch" their vehicle if the need arises.



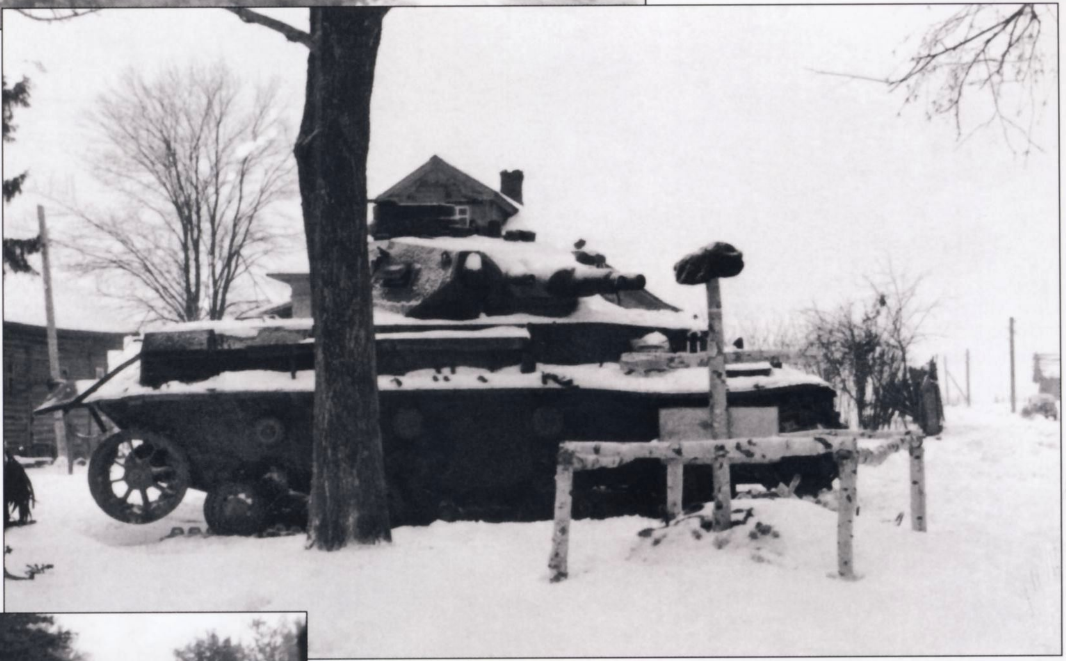
Critical to the successful employment of any military force are its combat engineers, or Pioniertruppen in German parlance. Their support is especially necessary when moving mechanized forces across river barriers and at this task the German Wehrmacht (national defense forces) were especially proficient. Here a Pz.Kpfw.IV (probably an Ausf.B or C) is ferried across one such river barrier using pontoons and a pre-fabricated bridge section. Note the landing on the near bank and the portable Übergangsschienen (engineer bridging ramps) standing ready to facilitate the Pz.Kpfw.IV's transition from the ferry to the landing. The white-outline Balkenkreuz national insignia and the lack of berets on the mittlerer Panzer's crew indicate that this image was created in the post-1940 era, probably during a training exercise.



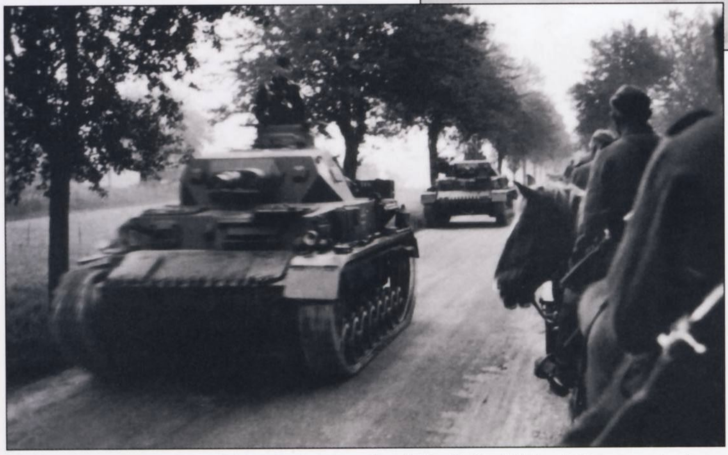
This Pz.Kpfw.IV Ausf.C is so covered in dust that no markings are visible, although the clothing of the crewmen indicates the image was created during either the Polish Campaign of 1939, or the campaign in the west in 1940. Externally the Ausf.B and Ausf.C were very similar, with only the addition of an armored sleeve over the co-axial MG34 (seen here) and the contours of the gun mantlet allowing positive identification of the model type from this angle.



A snow-bound Pz.Kpfw.IV Ausf.C is seen on the Ostfront, but in this instance the crew has taken the time to clean their mittlerer Panzer to prepare it for action. A length of spare track covers the bow, while spare road-wheels have been stored on the turret side and glacis plate.

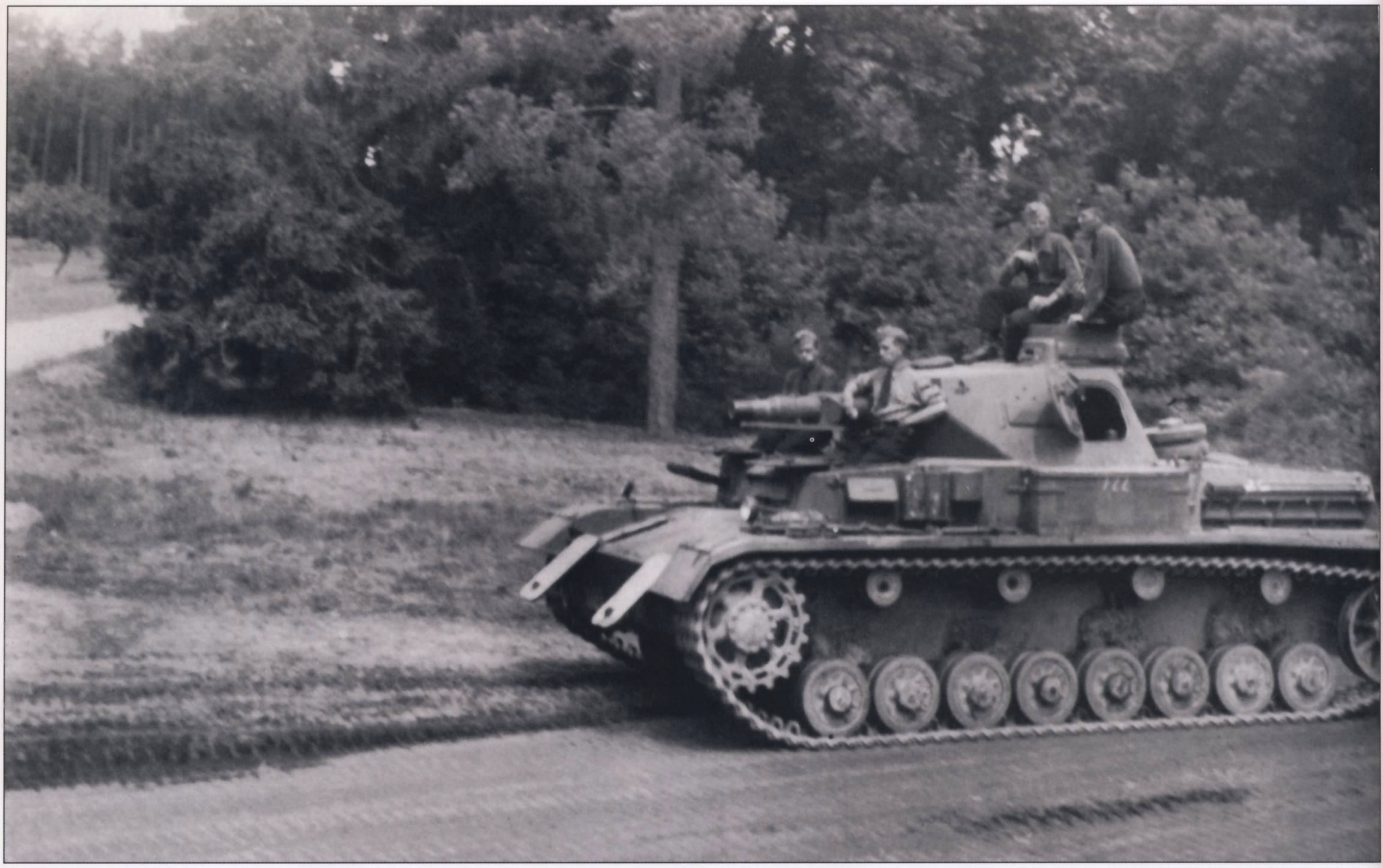


A destroyed Pz.Kpfw.IV stands beside the grave of one of its crewmembers, whose beret has been left in place on his marker in his honor. The model type of this snow-covered mittlerer Panzer cannot be determined due to the obliteration of any identifying features. The armored cover over the co-axial MG34 was introduced on the Ausf.C, while the 7.5cm KwK L/24 is mounted in a mantlet with an internal shield, last seen on the Ausf.C, making this probably an Ausf.C.

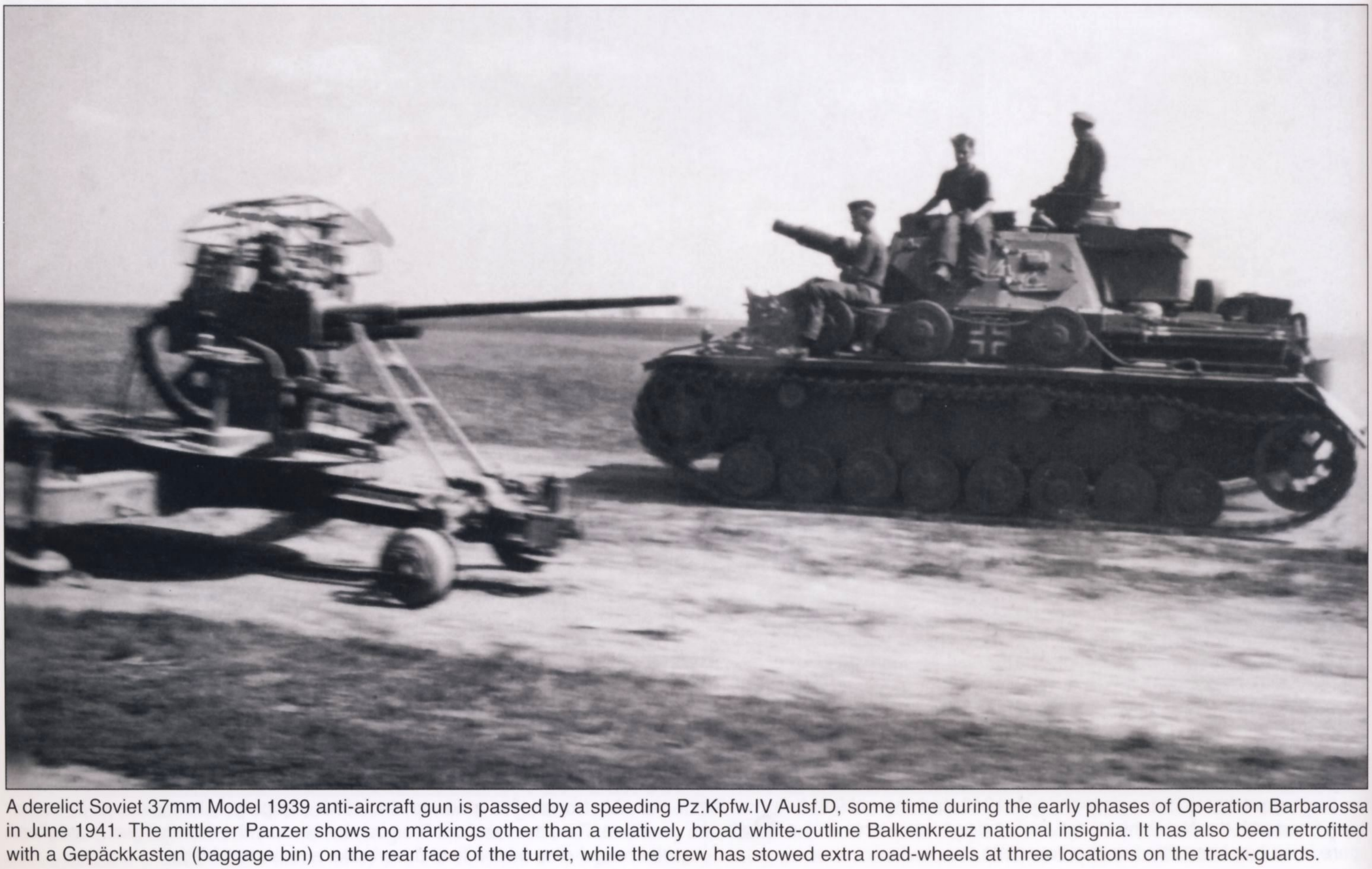


As horse-mounted troops look on, a pair of Pz.Kpfw.IV Ausf.Ds speed along a road, possibly during the immediate aftermath of the 1940 campaigns in the west. The Pz.Kpfw.IV is relatively clean and un-encumbered with extra stowage, but is missing the starboard side mud-flap. The markings include a white-outline Balkenkreuz national insignia on the superstructure side plate and what may be the devil's head insignia of Panzer-Regiment 31 of the 5.Panzer-Division. The commander of this mittlerer Panzer has discarded the over-sized beret last widely-seen in 1940 and the vehicle has not yet been fitted with the Notek black-out driving head-lamp; note also a length of spare track has been fitted on the bow plate.

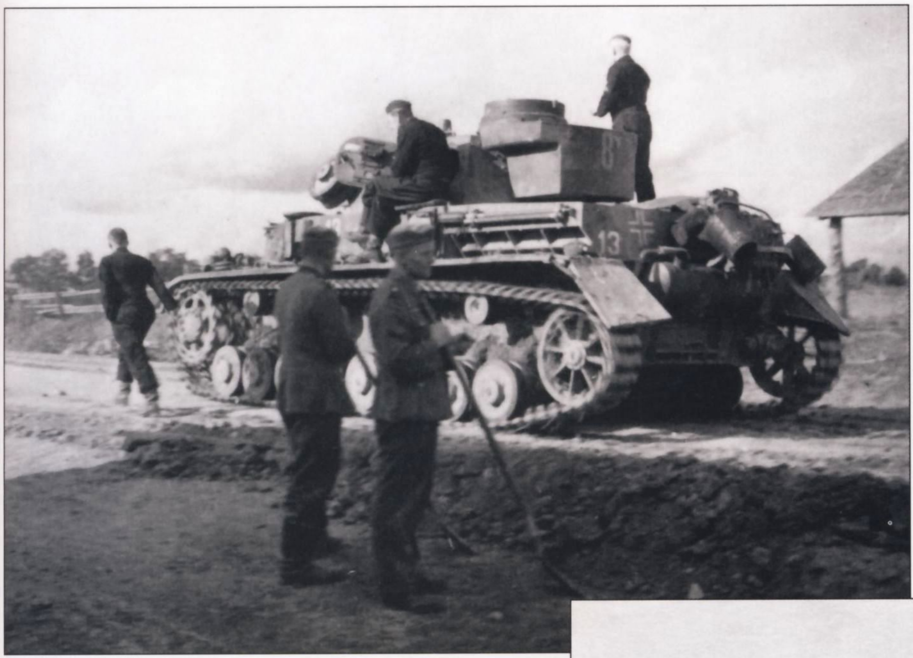
This pair of Pz.Kpfw.IVs have parked out in the open in rolling countryside, with a large "tactical interval" between them. Their very exposed positions, the lack of any extra external stowage and the white-outline Balkenkreuz national insignia probably indicates that this is a non-combat scenario, possibly some time prior to the 1940 campaigns in the west. The near mittlerer Panzer is an Ausf.D as can be seen by the external gun mantlet and the raised rims on the final drive/brake access hatch lids.



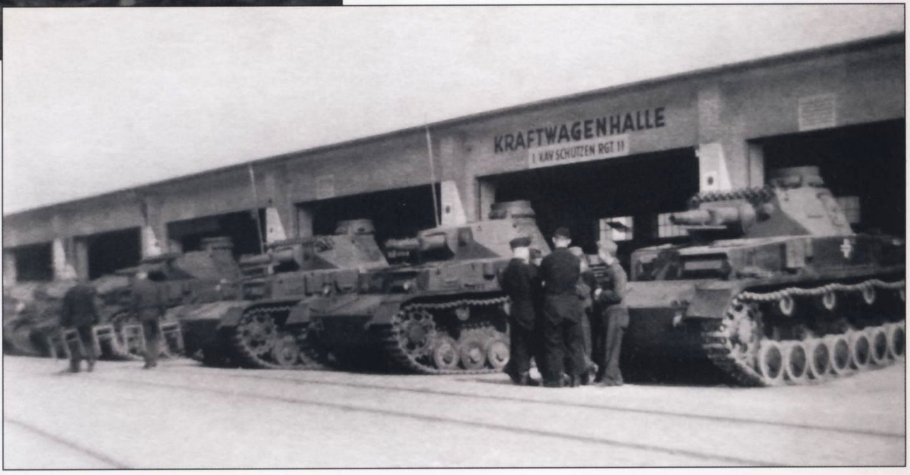
Relaxing in shirtsleeve order, the visible crewmen of this Pz.Kpfw.IV Ausf.D are unusual in that only one of them is wearing the Panzertruppen's trade-mark black side-cap, while the rest appear to be Feldgrau (grey-green) in color. The mittlerer Panzer has had a non-standard stowage locker fitted mid-way along the port-side track-guard, which appears to have had its Balkenkreuz national insignia over-painted; above it may be the remnants of a three-digit Tac number. To provide extra cooling for the brakes and final drives, both access hatch lids have been opened on the glacis plate.



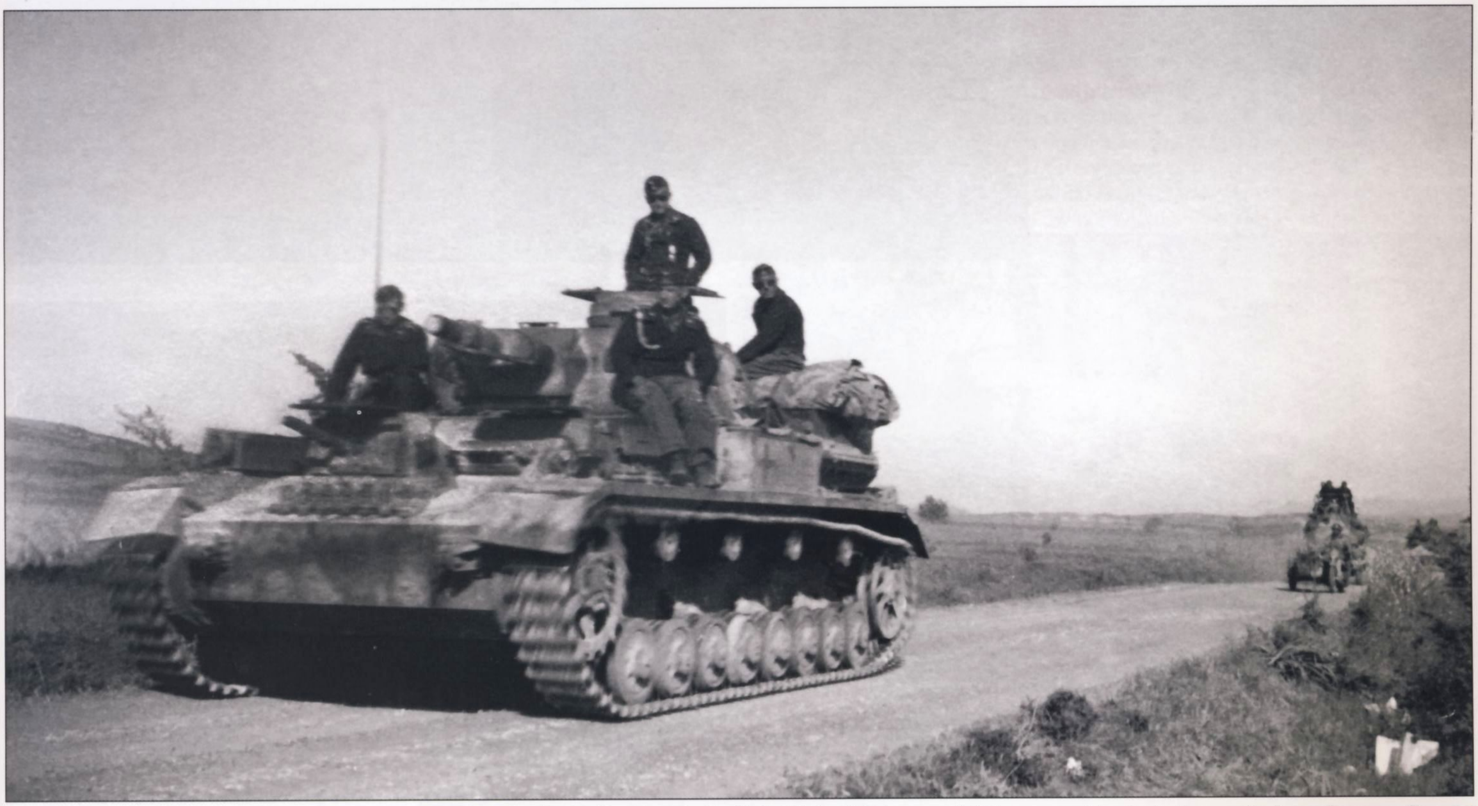
A derelict Soviet 37mm Model 1939 anti-aircraft gun is passed by a speeding Pz.Kpfw.IV Ausf.D, some time during the early phases of Operation Barbarossa in June 1941. The mittlerer Panzer shows no markings other than a relatively broad white-outline Balkenkreuz national insignia. It has also been retrofitted with a Gepäckkasten (baggage bin) on the rear face of the turret, while the crew has stowed extra road-wheels at three locations on the track-guards.



A Pz.Kpfw.IV Ausf.D moves along a dirt road, past a pair of Pioniertruppen (combat engineers) who have been charged with maintaining the way. Note the non-standard Gepäckkasten (baggage bin) on the rear face of the turret and the un-armored Nebelkerzenabwurfvorrichtung (rack to deploy smoke candles) on the rear plate, above the engine exhaust muffler. There is a number "8" painted on the rear of the Gepäckkasten, with what appears to be the insignia of an unidentified Panzer-Division, next to it. The superstructure's rear plate carries an additional number, "13", next to a white-outlined Balkenkreuz national insignia; the number is repeated on the forward side of the superstructure.

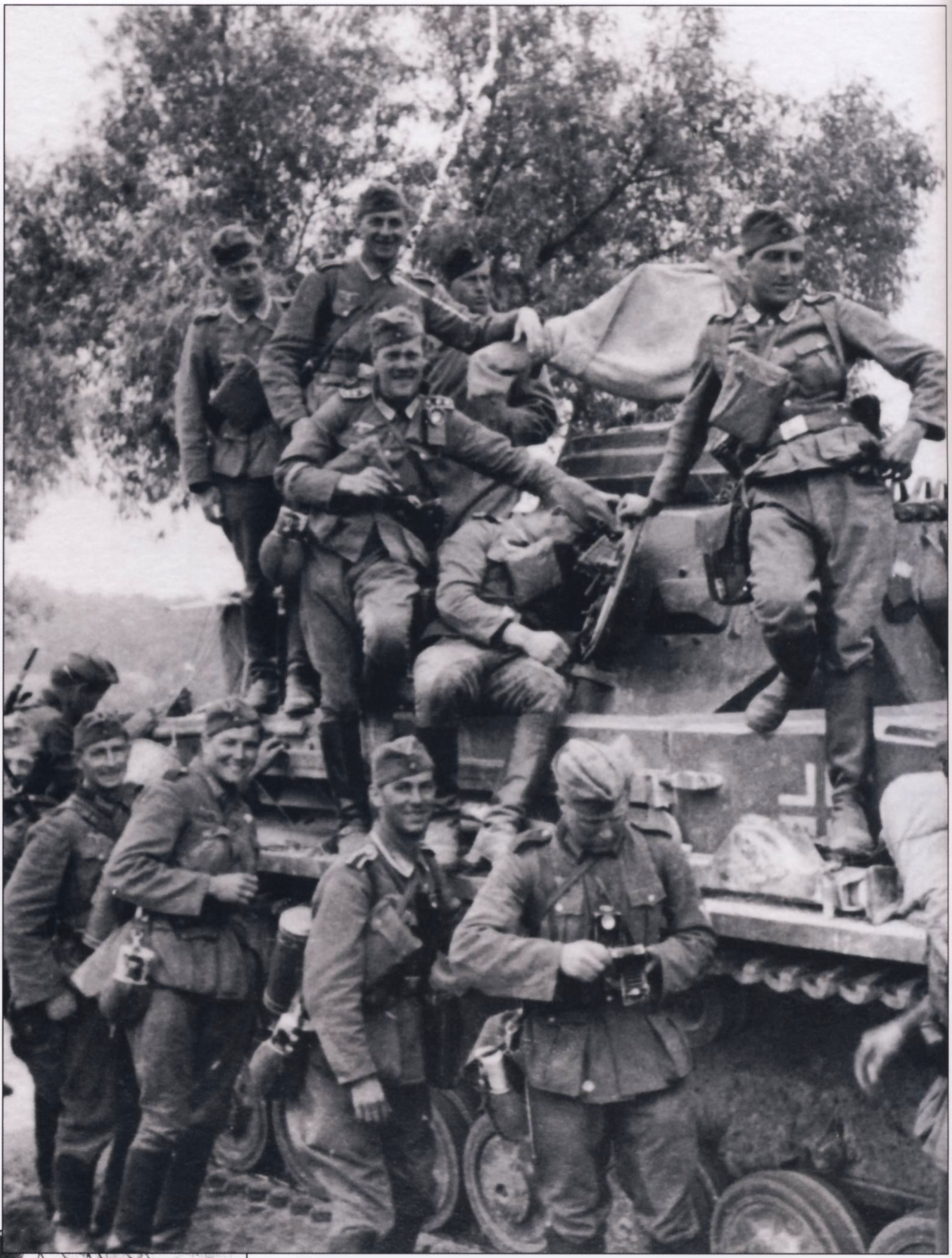


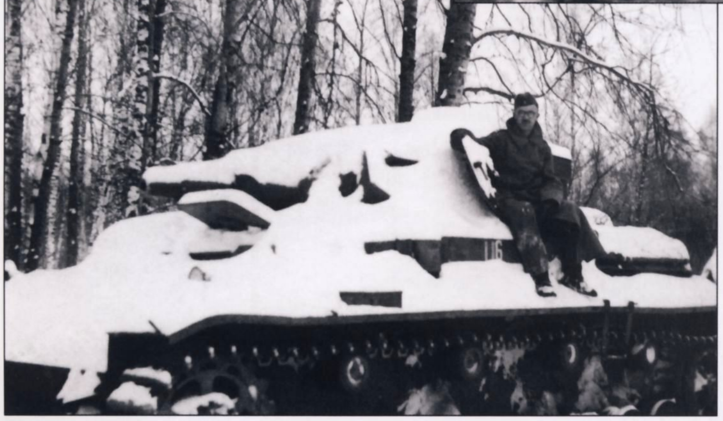
Various models of the Pz.Kpfw.IV are lined up outside the Kraftwagenhalle of I./Kavalliere Schützen-Regiment 11, which was the unit used to form the 24.Panzer-Division in November of 1941. The nearest mittlerer Panzer is an Ausf.E, while the next two are Ausf.Bs or Ausf.Cs. Note that the Balkenkreuz national insignia is of the white-outline style introduced October of 1939, immediately after the end of the Polish Campaign, but no Notek black-out driving head-lamp is apparent. Although the unit has parked its vehicles outside their maintenance/storage garages, they all appear rather dusty, indicating recent service.



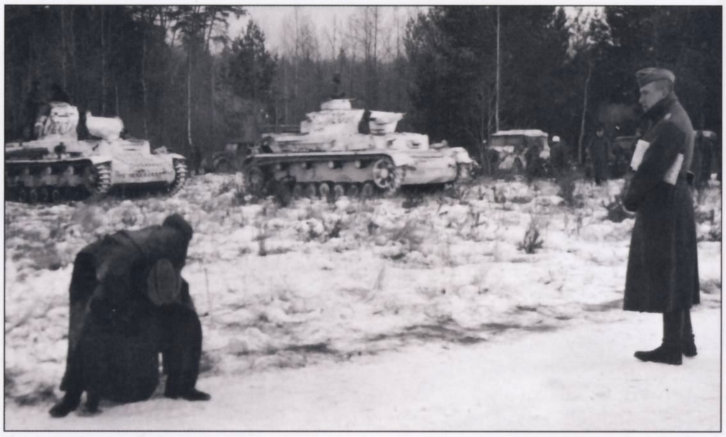
Seen rolling southwards during the 1941 campaigns in the Balkans, this Pz.Kpfw.IV Ausf.E is completely covered in dust. Unusually for a German Panzer crew, two of the visible men wear tinted goggles to protect their eyes from dust and the sun. This mittlerer Panzer has also been fitted with a non-standard stowage locker on the near track-guard, a Notek black-out driving head-lamp, and a large amount of stowage on the engine deck.

An entire section of infantrymen boards a Pz.Kpfw.IV for a ride into action. Note the canvas cover over the commander's cupola, which may cover some sort of improvised mount for an anti-aircraft machine-gun. The mittlerer Panzer has an external shield on the gun mantlet and the style of hub-caps introduced on the Ausf.E. The only visible marking is a white-outline Balkenkreuz national insignia on the superstructure side plate.

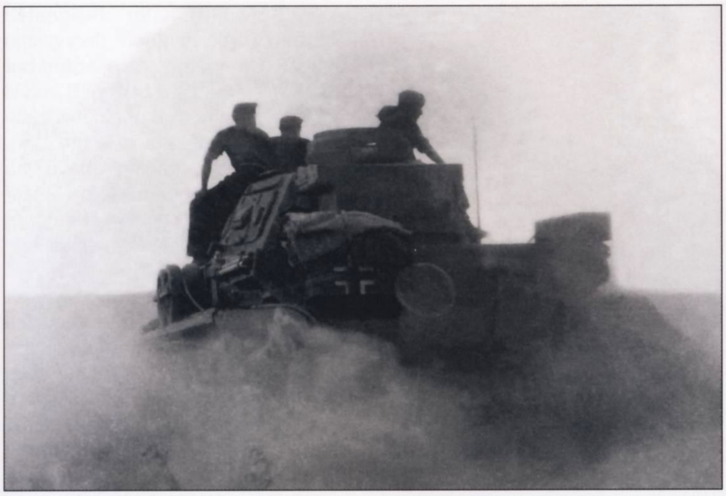




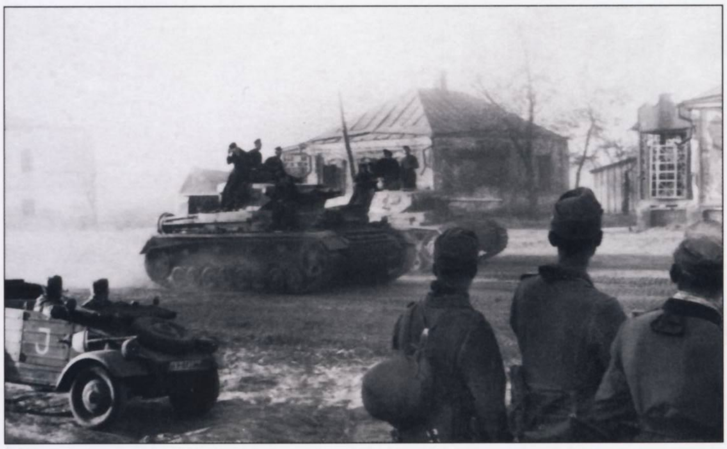
This snow-covered Pz.Kpfw.IV offers virtually no clues to its model type, although the boarding step seen deployed on the track-guard was seen through the Ausf.E, while the single-piece hatch lid on the side of the turret was dispensed with on the Ausf.F. The crew have foolishly left the hatch lid open above the driver's compartment, which considering the amount of visible snow, virtually assures that there is quite a bit of the white substance inside their mittlerer Panzer. A Tac number, possibly "116" appears behind the right leg of the crewman.



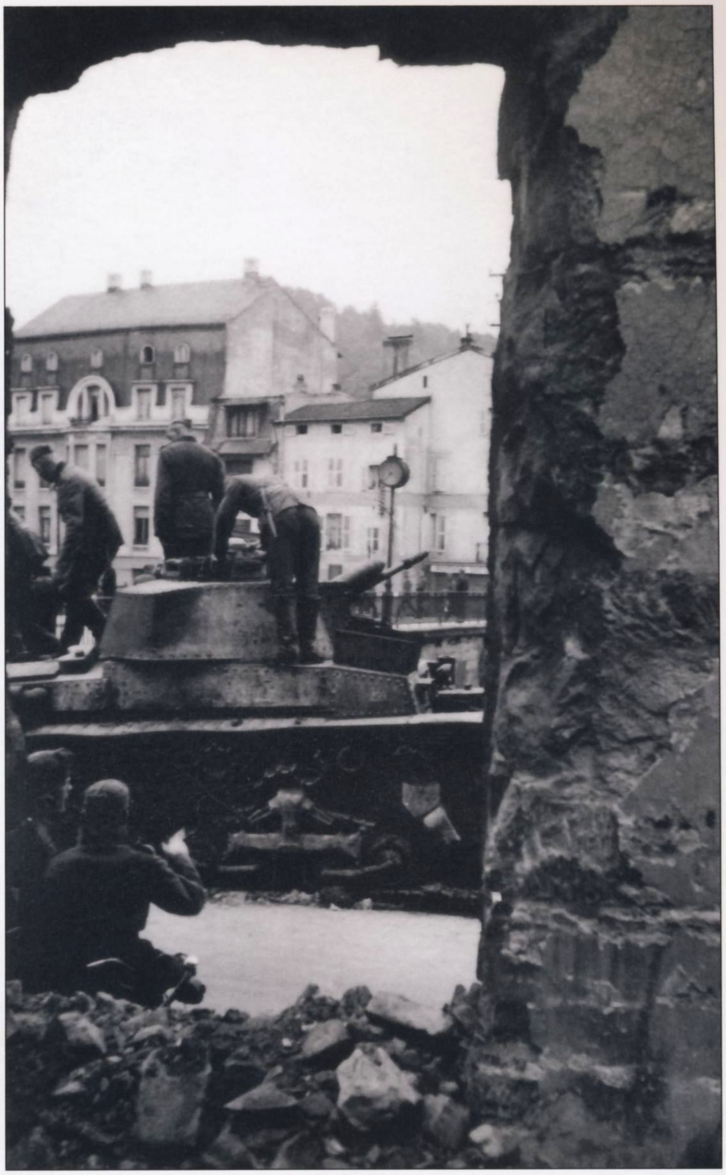
The Pz.Kpfw.IV Ausf.F at right is flanked by an earlier model, possibly an Ausf.D or E, somewhere on the Ostfront during the winter of 1941-42. Both mittlerer Panzer have been given a thorough coat of white-wash for effective camouflage against the snow-bound countryside; there appears to be a partially-obscured Tac number on the side of the Ausf.F's turret, but otherwise no other markings can be discerned.



A Pz.Kpfw.IV Ausf.F raises a huge cloud of dust on the southern steppes of the Soviet Union. While very little in the way of details can be seen due to the huge amount of dust, the engine exhaust muffler introduced on the Ausf.F is a positive identifier of the model type. Note the white-outlined Balkenkreuz national insignia on the armored cover for the Nebelkerzenabwurfvorrichtung (rack to deploy smoke candles) on the rear plate and the improvised road-wheel stowage on the port-side track-guard.

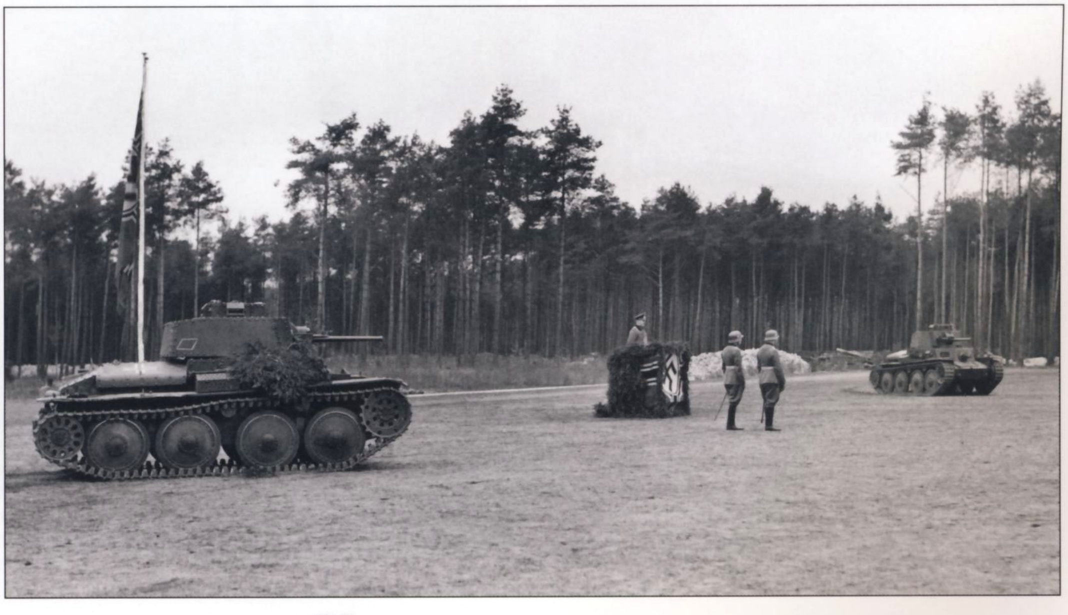


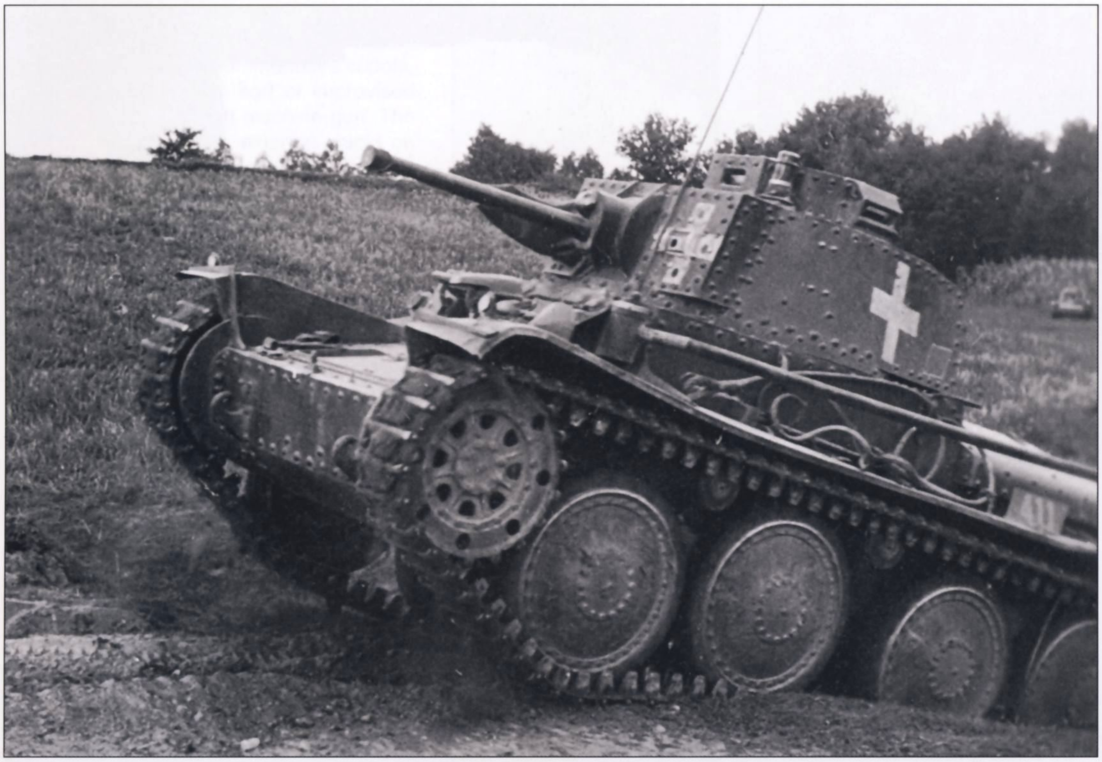
A Pz.Kpfw.IV Ausf.F, flanked by a Pz.Kpfw.III Ausf.L, passes a Volkswagen Typ82 light field car, somewhere on the Ostfront probably in 1942. The Pz.Kpfw.IV is identified as an Ausf.F by the style of its drive sprocket and idler wheel, while the Pz.Kpfw.III, which likely began life as an Ausf.J, would eventually be re-designated Ausf.L shortly after the long 5cm KwK L/60 was installed. The Volkswagen carries the stylized "I" (which appears to be a "J") of the Instandsetzungs-Kompanie (maintenance company) attached to each Panzer-Abteilung.



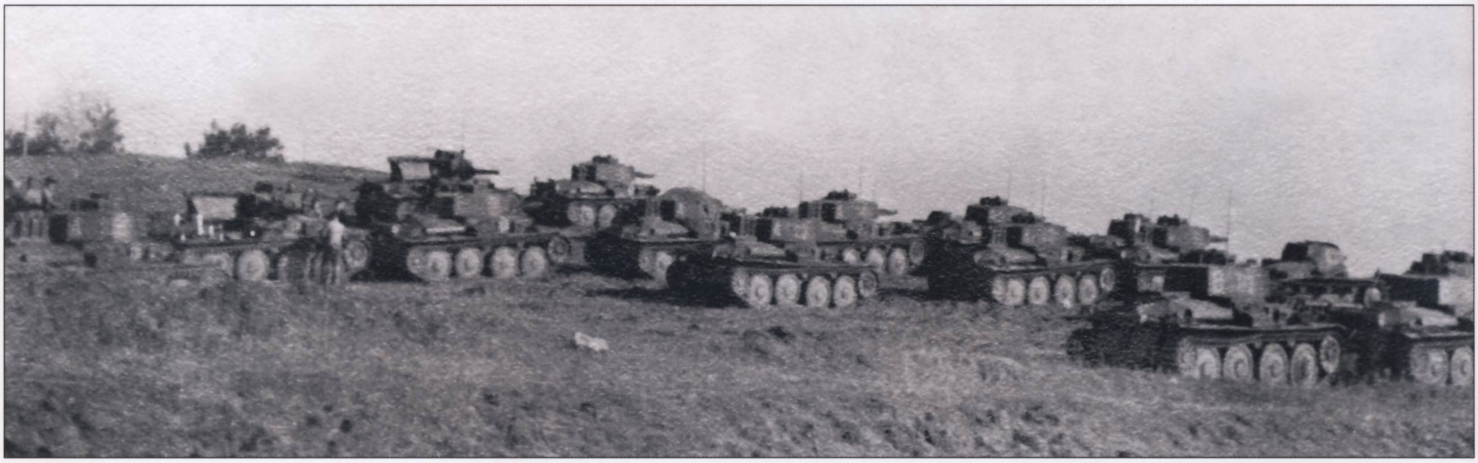
This thoroughly burned-out Pz.Kpfw.35(t) is being examined by German soldiers in the town square somewhere in the west during of just after the campaigns of 1940. Only one unit fielded these tanks during that time period, the 6.Panzer-Division. Note the complete absence of any tools or external stowage items and the "squashed" appearance of the suspension system. The intense fire has stripped away the paint finish and oxidized the surface of the armor plates.

A pair of Pz.Kpfw.III(t)s flank a flag-bedecked podium, probably during an awards ceremony after the end of the Polish Campaign of September 1939. The "ghost" of a broad, white Balkenkreuz national insignia can still be seen on the turret sides, although it has been over-painted; the one on the engine deck is in the newly-authorized white-outline style. The Panzer rhomboid insignia of 3.leichte-Division is also seen on the turret, with another illegible design just above it.

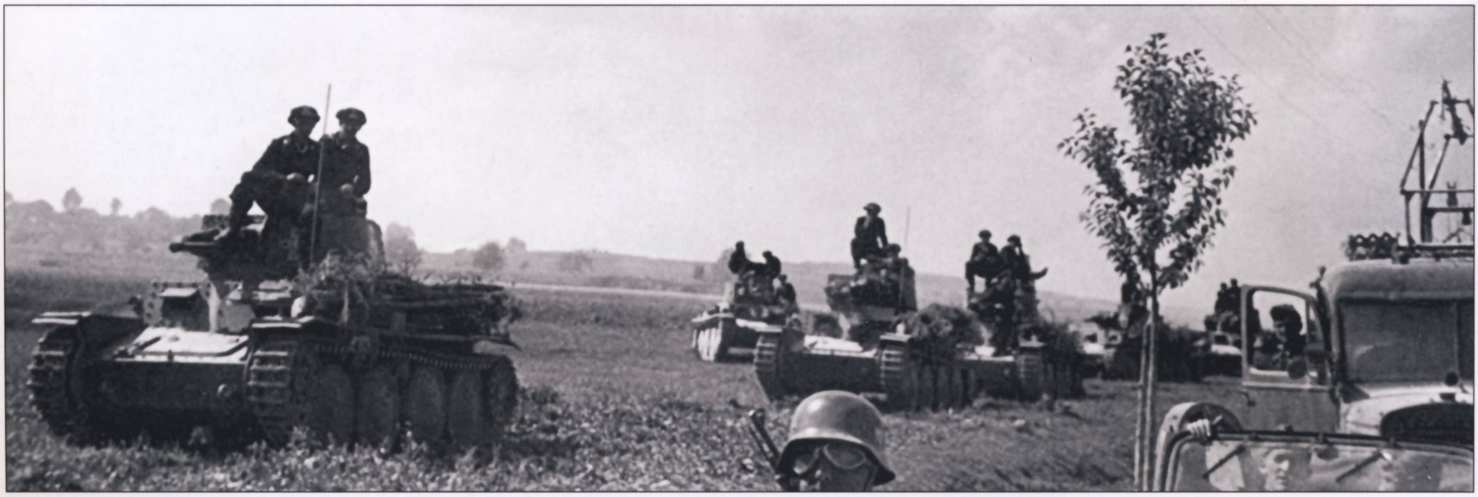




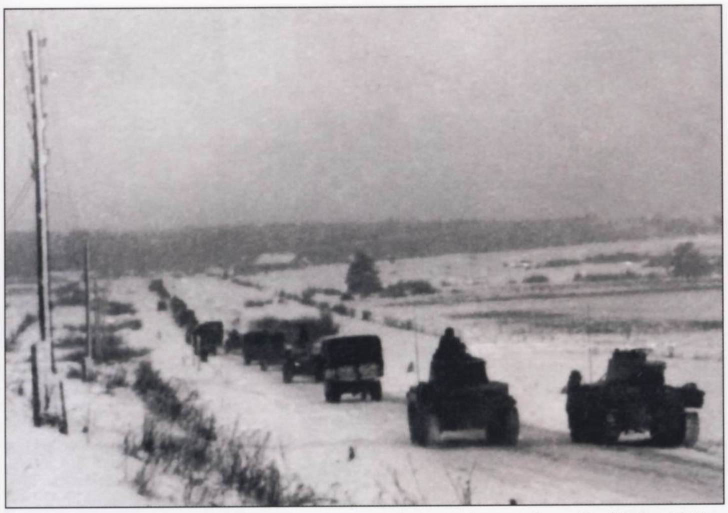
A Pz.Kpfw.III(t), later designated Pz.Kpfw.38(t), is seen during the Polish Campaign of September 1939. It is an Ausf.A or Ausf.B and is still fitted with the original Czech "battle antenna", which is the long, pipe-like fitting running above the near-side track-guard. This Panzer has been fitted with a standard German flexible antenna base and Stabsantenne (rod antenna). In addition, the fairing can be seen for the driver's rear-view mirror, on the forward edge of the track-guard. However, the most unusual item present is the German-designed Notek black-out driving head-lamp seen just forward of the mirror. Although authorized for use almost a year prior to the 1939 campaign, this device is rarely seen in use until 1941. Note the thick, white Balkenkreuze national insignia on the front and side of the turret, and the white-outline Panzer rhomboid, with an unknown fill color; the final marking is a Tac number, "411', in yellow on the rhomboid plate fixed to the track-guard.



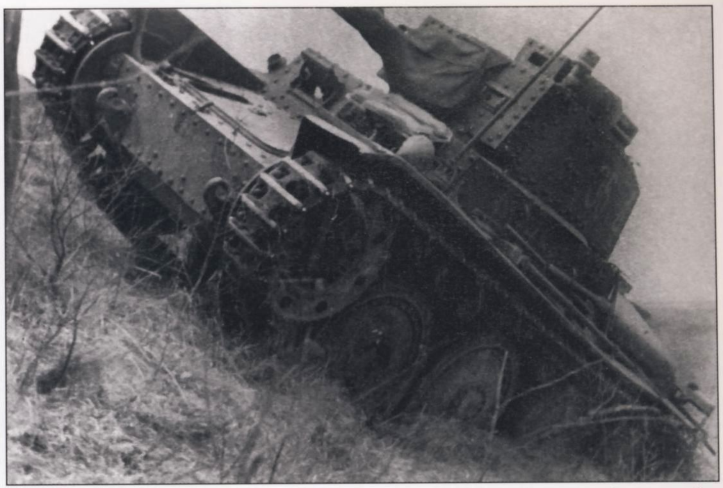
The better part of a Panzer-Kompanie is formed up in Zug (platoon) columns quite probably during the 1940 campaigns in the west. All of the visible Panzer are coated in dust and mud, obscuring most of the markings usually seen on these vehicles in this time-frame. Note that all carry a rack for 20-liter jerry cans on their rear decks, between the two engine deck access hatch lids; also visible on the original image are the German-installed Stabsantenne (rod antennae).



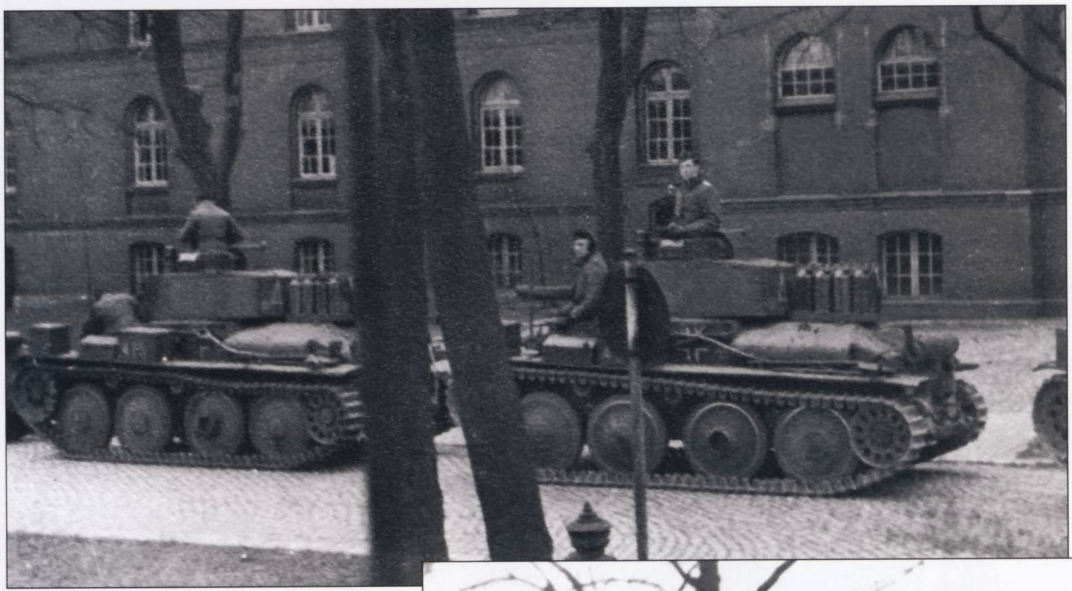
While a column of wheeled vehicles sits idle on a road, another column, this time consisting of Pz.Kpfw.38(t)s, moves in parallel, cross-country. The Panzer at far left is configured as either a Zug-Führer's or Kompanie-Kommandeur's vehicle. Note the plated-over aperture for the MG37(t) on the superstructure front plate, which was removed to make room for the installation of a radio transmitter. The remaining Panzer within the unit would only be fitted with a receiver at this point in the war.

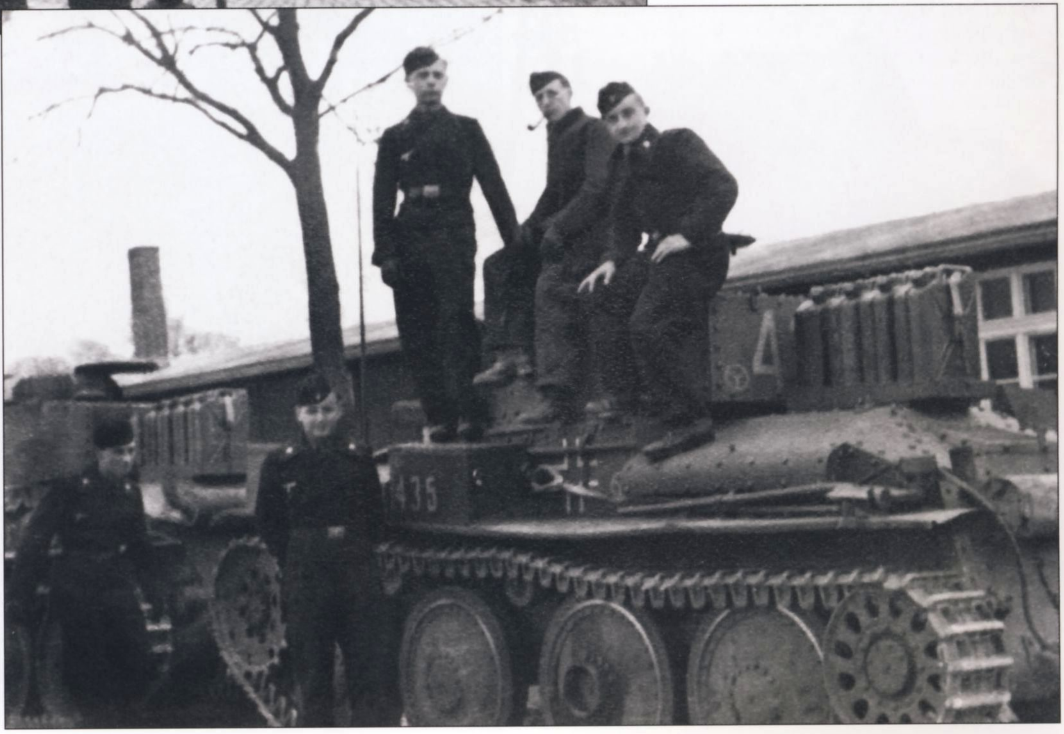


A column of wheeled vehicles are escorted by a few Pz.Kpfw.38(t)s, somewhere on the Ostfront during the winter of 1941-1942. The blowing snow and the quality of the original image precludes identifying the model sub-types, as well as any type of markings. As the Pz.Kpfw.38(t)s became obsolete as front-line assets, they were relegated to such tasks as convoy escort and anti-partisan operations.



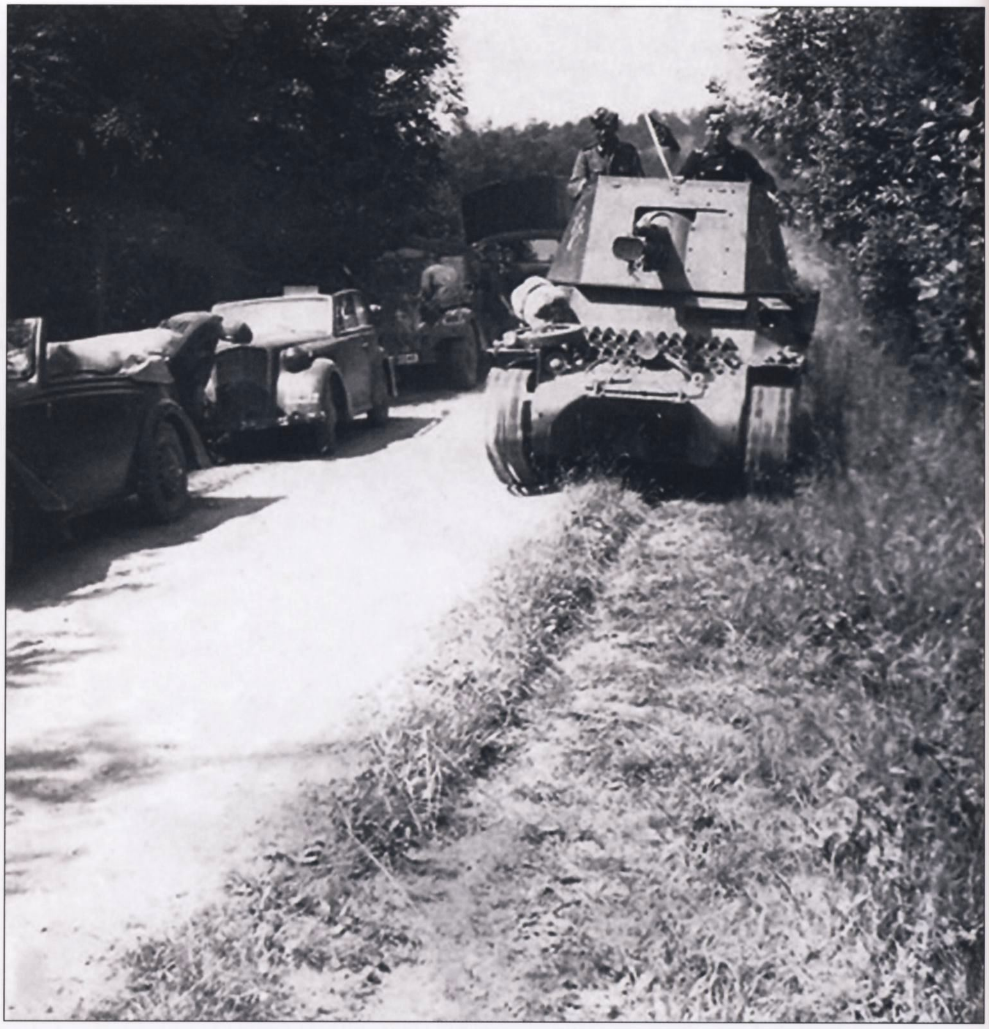
This skewed image depicts a Pz.Kpfw.38(t) Ausf.A or B somewhere on the Ostfront. Note the fitting of a Notek black-out driving head-lamp on the near side track-guard, as well as a German-style Stabsantenne (rod antenna). The convoy distance-keeping tail-lamp is also present on the track-guard support bracket at rear, and a three-digit Tac number “34 4” can be seen on the turret’s side wall. This style of Tac number was a hallmark of 20.Panzer-Division.



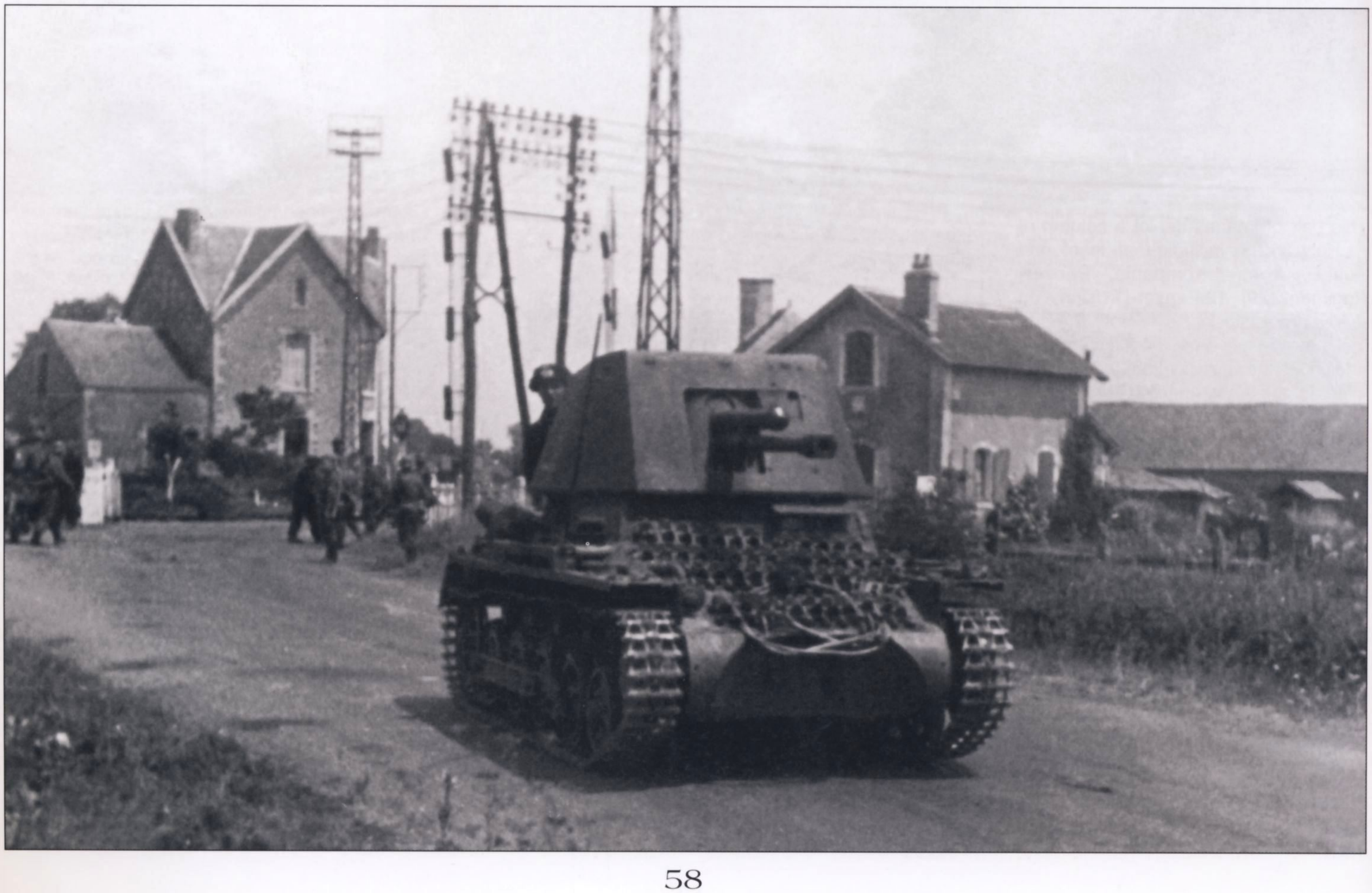


This pair of images depict a column of Pz.Kpfw.38(t)s, including at least one Ausf.E, from 4.Kompanie, Panzer-Regiment 29, 12.Panzer-Division, on the Ostfront late in 1941. Note that the tool stowage has been modified and that additional stowage lockers have been fitted to the track-guards. The Panzer with the Tac number “435” has its exhaust muffler in the original position, while the one in front of it has it in the later raised position. The vehicles of this unit also had a rack for 20-liter jerry cans placed between the access hatch lids on the engine deck. For a more detailed description of the markings, see the color plate section of this book.

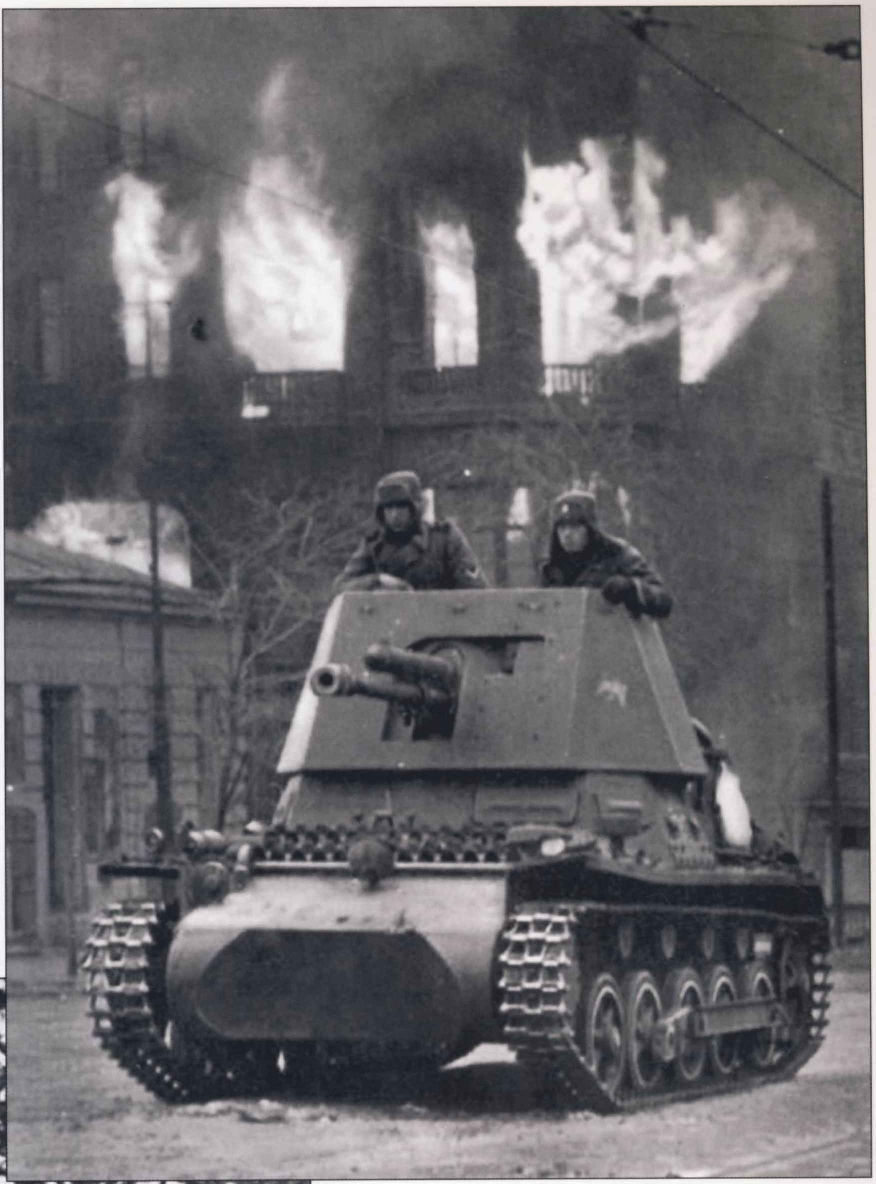
The first fully-tracked self-propelled anti-tank gun in German service was created by mounting the well-designed ex-Czech 4.7cm PaK(t) on a modified Pz.Kpfw.I Ausf.B chassis. The designation then became Panzerjäger I, or 4.7cm PaK(t) auf Pz.Kpfw.I Ausf.B ohne turm (Sd.Kfz.1o1). It was first fielded during the campaigns in the west in 1940, in company-strength units attached to larger formations. Seen on a country road, speeding by parked wheeled vehicles, this self-propelled gun sports a large insignia on either side of the superstructure armor plates, which is, unfortunately indecipherable from this angle.

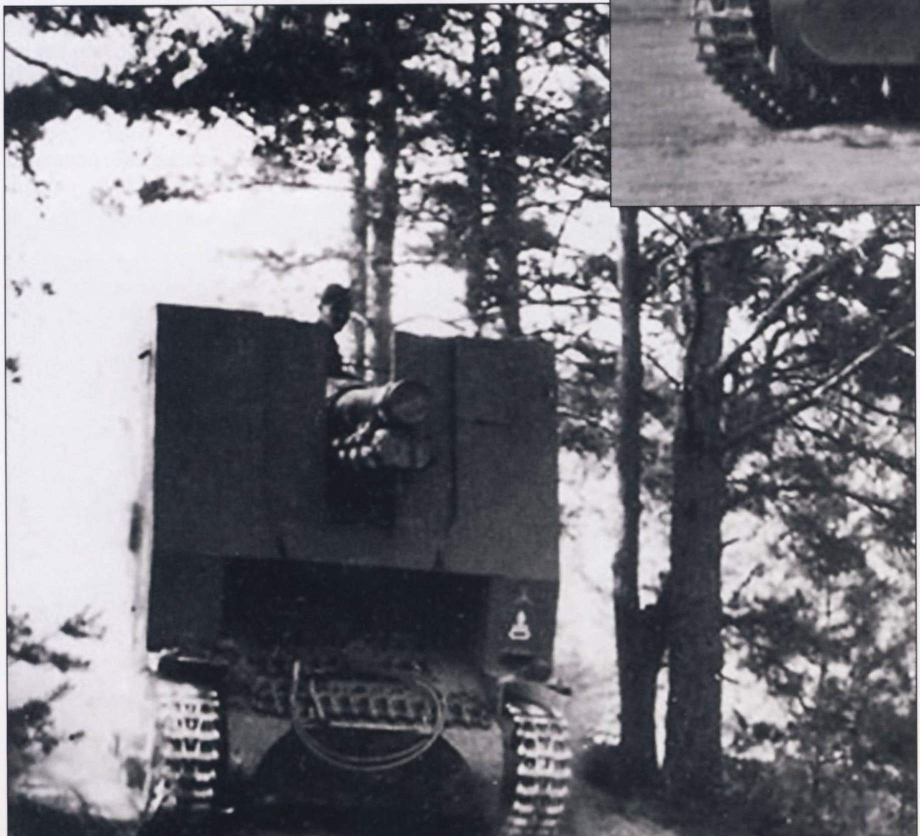


This Panzerjäger I is from the initial production series fitted with a five-sided armored superstructure around its gun. There appears to be a name in white on the side plates, but it is illegible at this distance. The crew has attached quite a lot of spare track lengths on the glacis and superstructure front plate for added protection, while the front mud-flaps have been removed probably to prevent mud from building up around the drive sprocket, which could cause a track to be thrown at an inopportune moment.

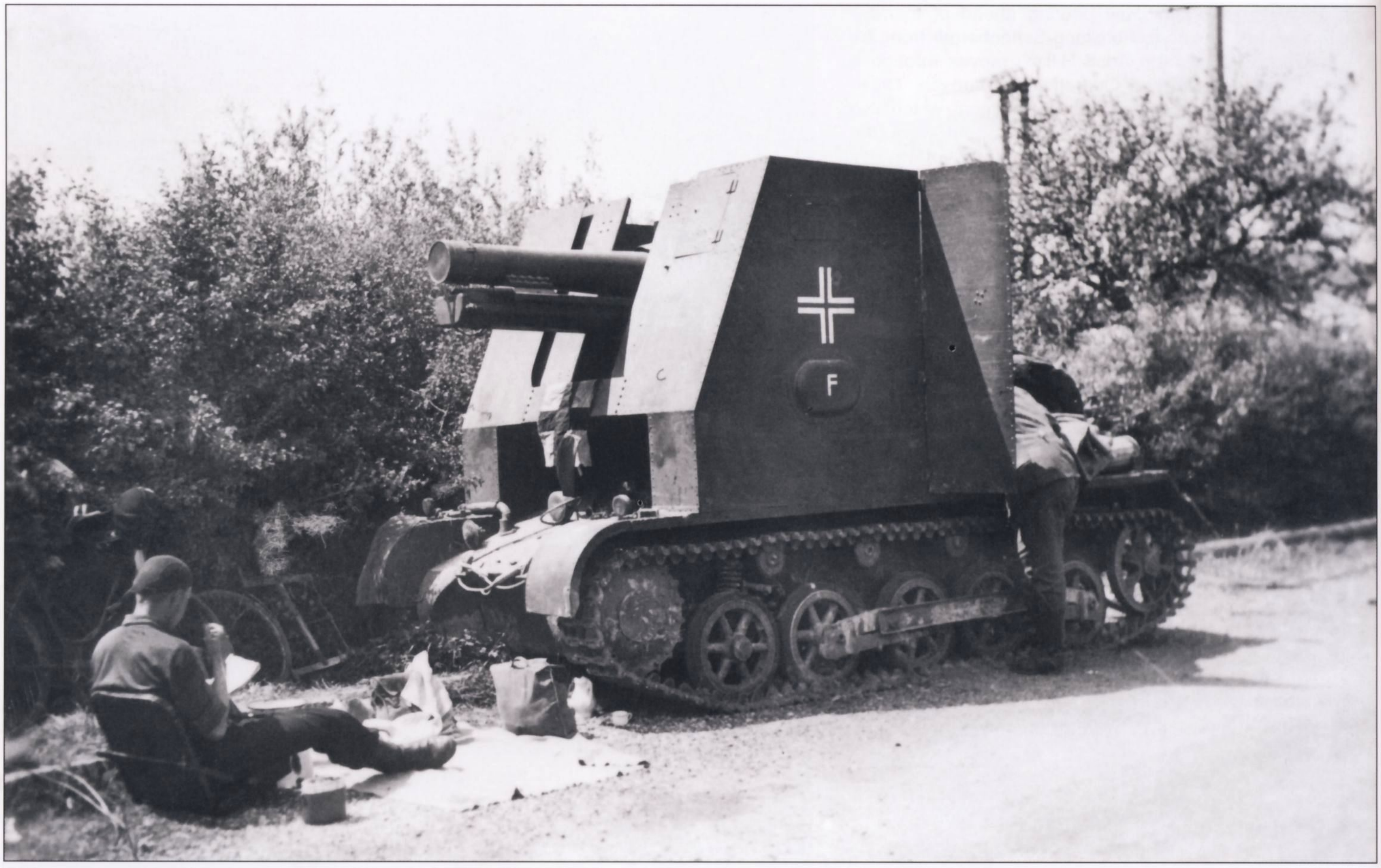


With its Waffen-SS gun crew peering ahead of them, a Panzerjäger I belonging to Abteilung Schönberger from the SS-Division "Leibstandarte Adolf Hitler", moves through a burning Soviet city early in Operation Barbarossa. These guns were part of the division's armored element, which also included a battery of Sturmgeschütz IIIs. All wore the insignia seen on the superstructure, which consisted of a white eagle's head over a red and yellow "S", the initial of the commander, Schönberger.

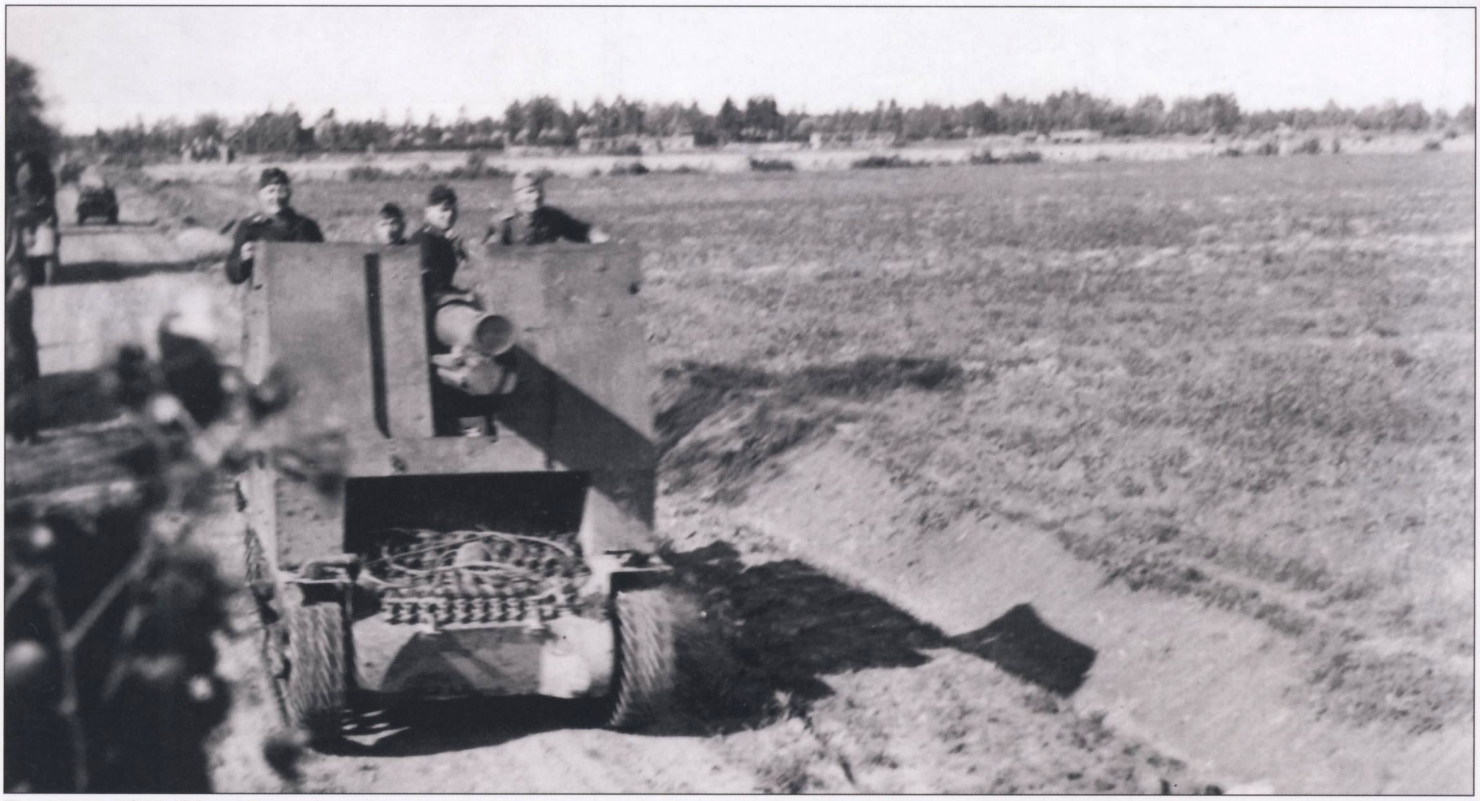




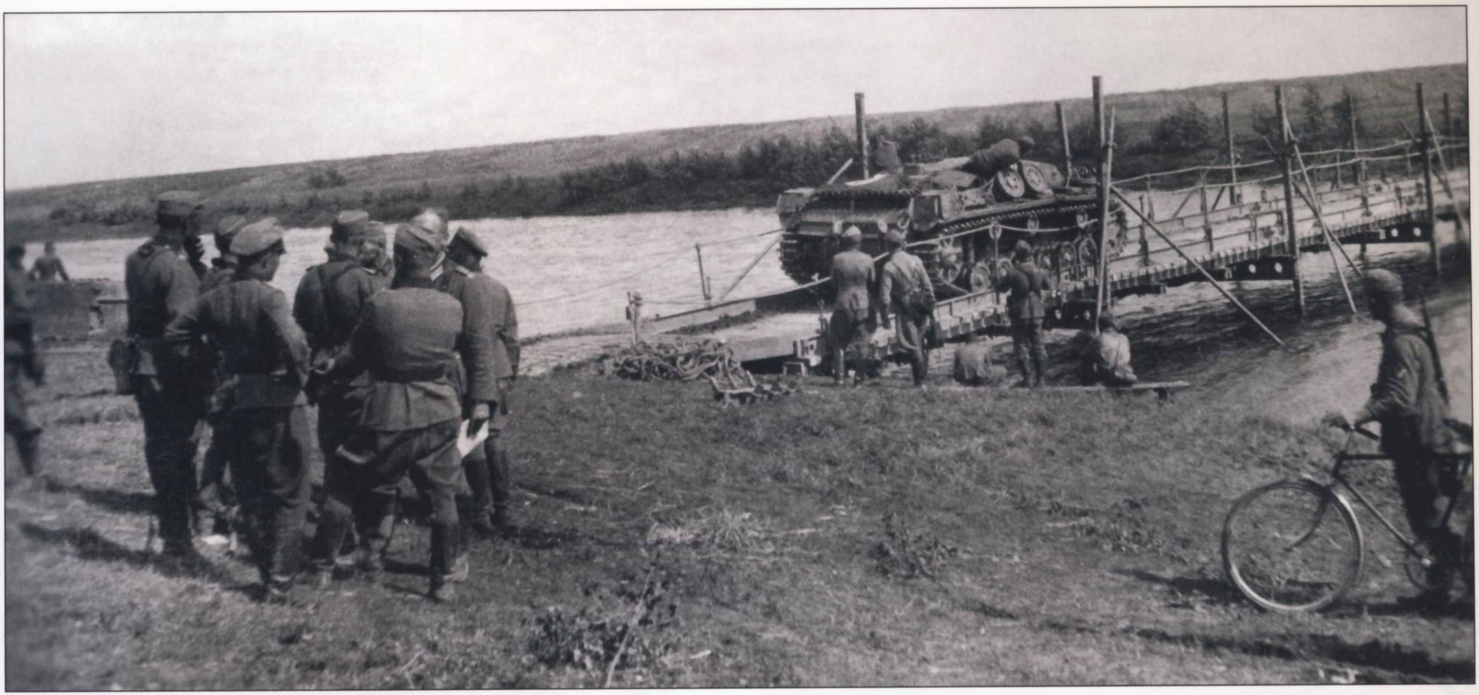
The first fully-tracked, self-propelled infantry support gun fielded by Germany was also based on the Pz.Kpfw.I Ausf.B chassis. This variant mounted the powerful, if short-ranged 15cm s.IG33 infantry gun complete with carriage and wheels. The gun was surrounded by a high, three-sided armored superstructure that also had hinged segments on each side panel. Several companies of these guns, designated 15cm s.IG33 (Sf) auf Panzerkampfwagen I Ausf.B, were first deployed during the 1940 campaigns in the west, usually attached directly to a Panzer-Division. Some were later deployed in 1941 to the Balkans (which is probably the case here; note the Notek black-out driving head-lamp on the port-side track-guard), while nearly all eventually ended their careers on the Ostfront.



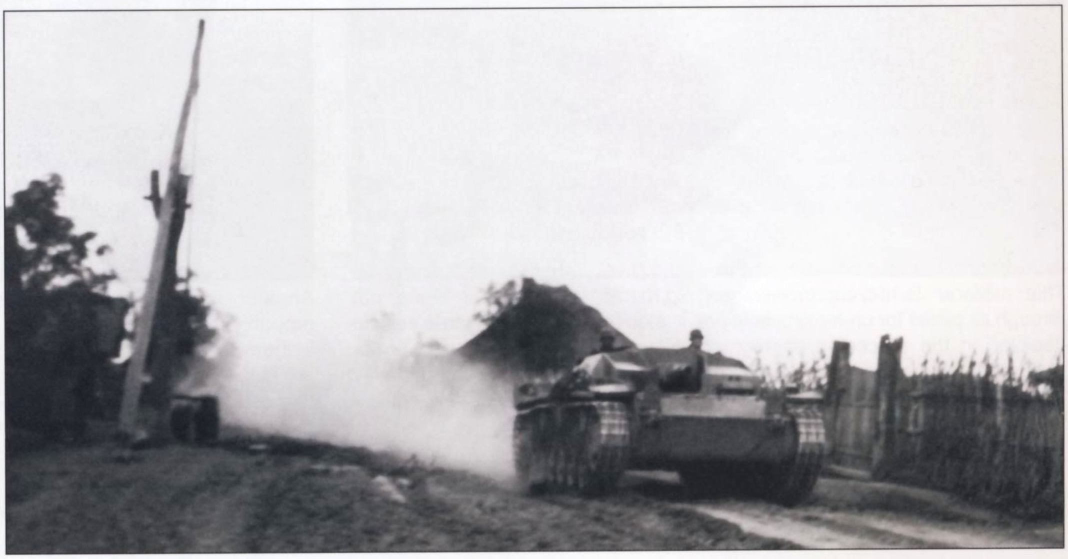
While one member of the crew of this 15cm s.IG33 (Sf) auf Panzerkampfwagen I Ausf.B has created for himself a comfortable position in which to read and eat, another busies himself behind one of the folding segments of the superstructure armor plate. Note the oval-shaped bulge with the gun-in-battery letter, "F" on the side of the superstructure. This was installed so that the gun's wheel hubs, which were still left attached to its carriage had sufficient clearance and protection. The crew has not removed the forward mud-flaps, which when left in place could mitigate (somewhat) the amount of dust thrown up into the air. This in turn might lessen the odds of enemy observation and fire.



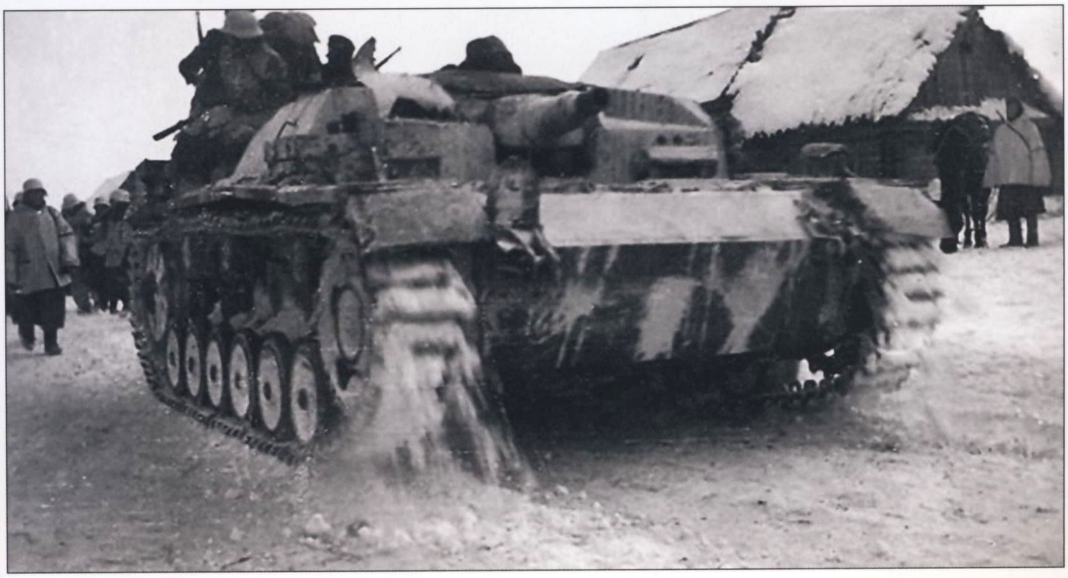
The 15cm s.IG33 (Sf) auf Panzerkampfwagen I Ausf.B also saw some service during the campaigns in Greece and Yugoslavia in the late spring of 1941, as pictured here. The crew have discarded their over-sized berets for side-caps and the vehicle has been up-graded with a Notek black-out driving head-lamp, seen on the port-side track-guard. Typically, the front mud-flaps have been removed and the crew has attempted to increase their protection by laying lengths of track on the glacis plate.



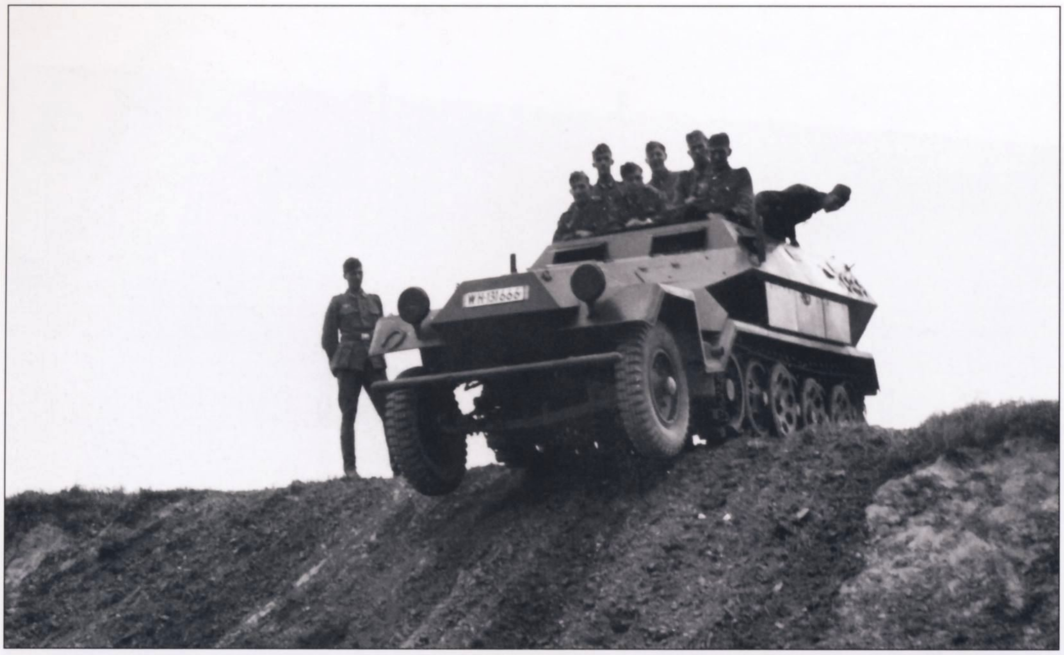
A Sturmgeschütz III, probably an Ausf.B or possibly re-built Ausf.A, begins to cross a bridge over a relatively shallow river. Note that pontoons are not in evidence, but that pre-fabricated trusses are in use instead, presumably due to the shallowness of the river at this point in its course. The Sturmgeschütz III can be identified as an early Ausf.B or re-built Ausf.A due to the stowage cubes on the rear of the track-guards and the re-located forward-most return roller. The former were a feature of production-standard Ausf.As and early Ausf.Bs, while the latter was standard on the Ausf.B and a possible modification to the Ausf.A.



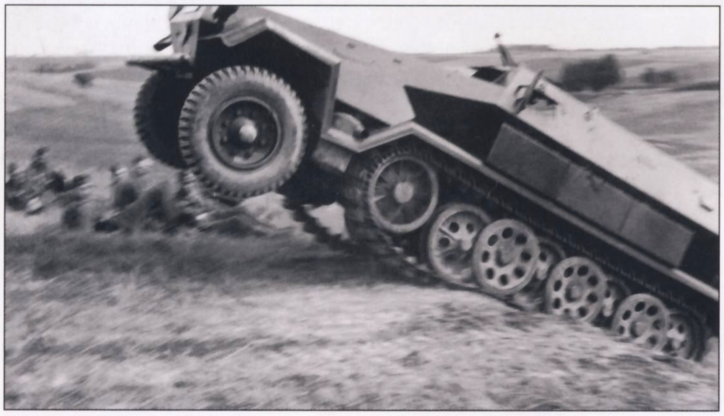
This Sturmgeschütz III, probably an Ausf.B, speeds through a Soviet village, quite probably during Operation Barbarossa in the early autumn of 1941. In doing so, it raises a tactically un-sound cloud of dust, which may cause enemy observers to take notice of its position. Note the relative lack of stowage, the folded-up mud-flaps and the two visible crewmen wearing their M1935 Stahlhelmen (steel helmets).



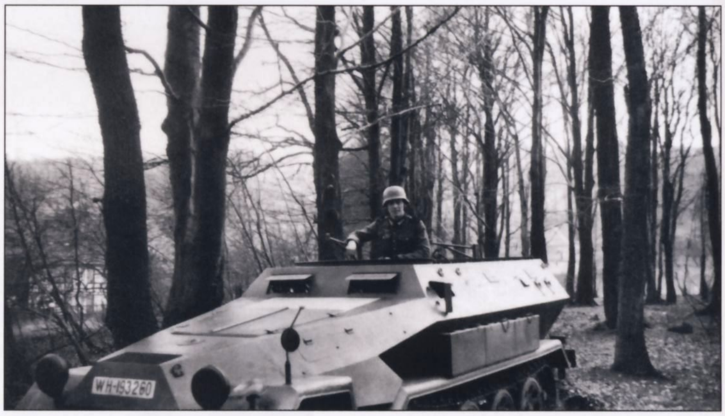
This Sturmgeschütz III Ausf.B (or possibly a modified Ausf.A) appears to be reversing course, back towards the following infantry, somewhere on the Ostfront during the winter of 1941-1942. Note the faded white-wash on this assault gun's upper surfaces and the spattered appearance of the camouflage on the bow plate. The stowage cubes seen on Ausf.As and early Ausf.Bs, in combination with the re-located forward-most return roller indicates that this assault gun is probably the later model.



The need to transport the various supporting units in a Panzer-Division through enemy fire was met by the introduction of the "Schützenpanzerwagen", or armored infantry carrier on a semi-tracked chassis. In this case, a mittlerer Schützenpanzerwagen Sd.Kfz.251/1 Ausf.A is seen being put through its paces. It is identified as an Ausf.A by the three vision port flaps on the side of the upper superstructure; the Ausf.B was externally very similar but it dispensed with two of the rear-most view-ports, leaving only the one on either side of the driver's cockpit. This un-marked vehicle carries only a registration plate, WH-131666 on the bow.

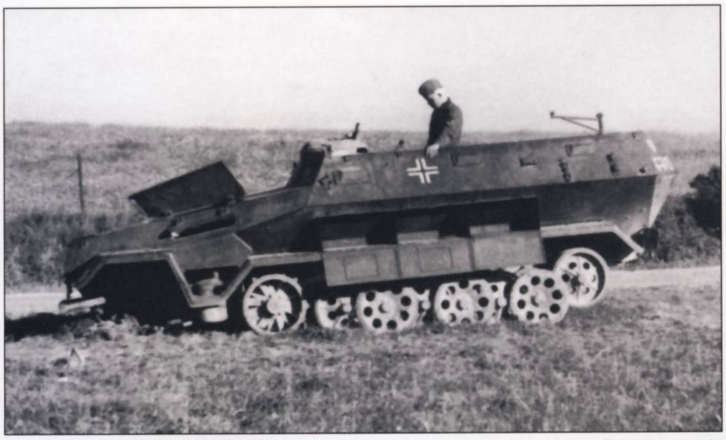


This mittlerer Schützenpanzerwagen Sd.Kfz.251/1 Ausf.A is being put through its paces for on-looking soldiers; it is quite probably the same vehicle depicted in the preceding photograph. Note the trapezoid-shaped armor plate partially covering the exhaust muffler and the view-port flap mid-way along the side of the upper superstructure plate; the latter feature identifies the model type.

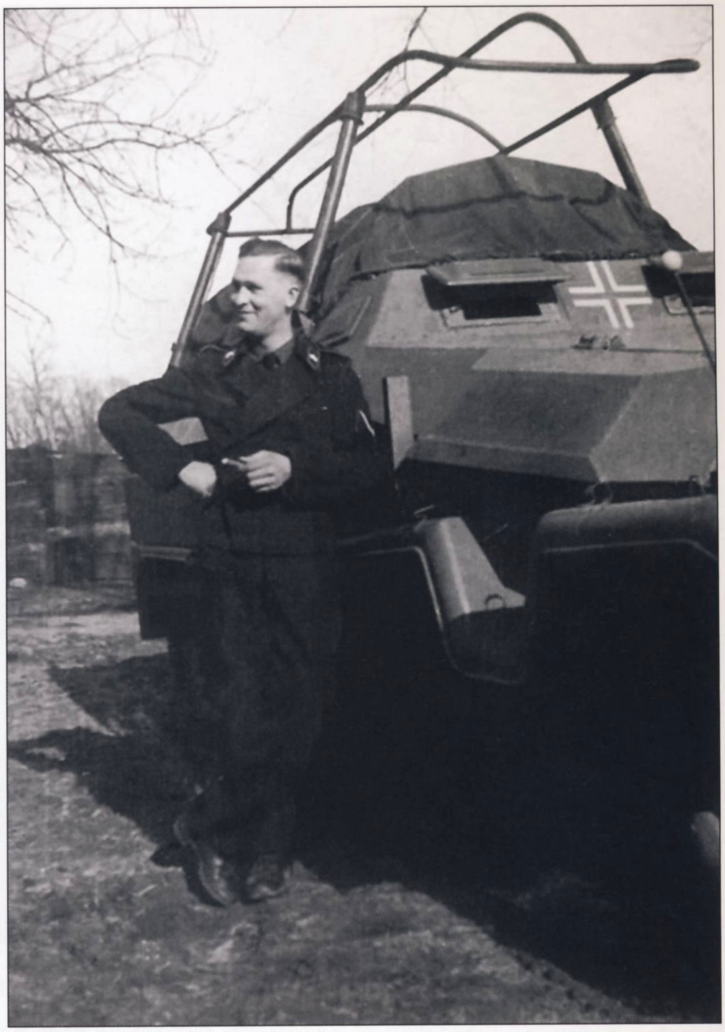


Another mittlerer Schützenpanzerwagen Sd.Kfz.251/1 Ausf.A is seen, probably immediately prior to its first operational use during the campaigns in the west during 1940. Note that the pedestals for the front and rear MG34s are identical and that the forward mount does not have a shield. The vehicle carries a large rectangle on the roof of the engine compartment as an aerial recognition device, something common during the campaigns of 1940; the registration plate reads WH-193260.

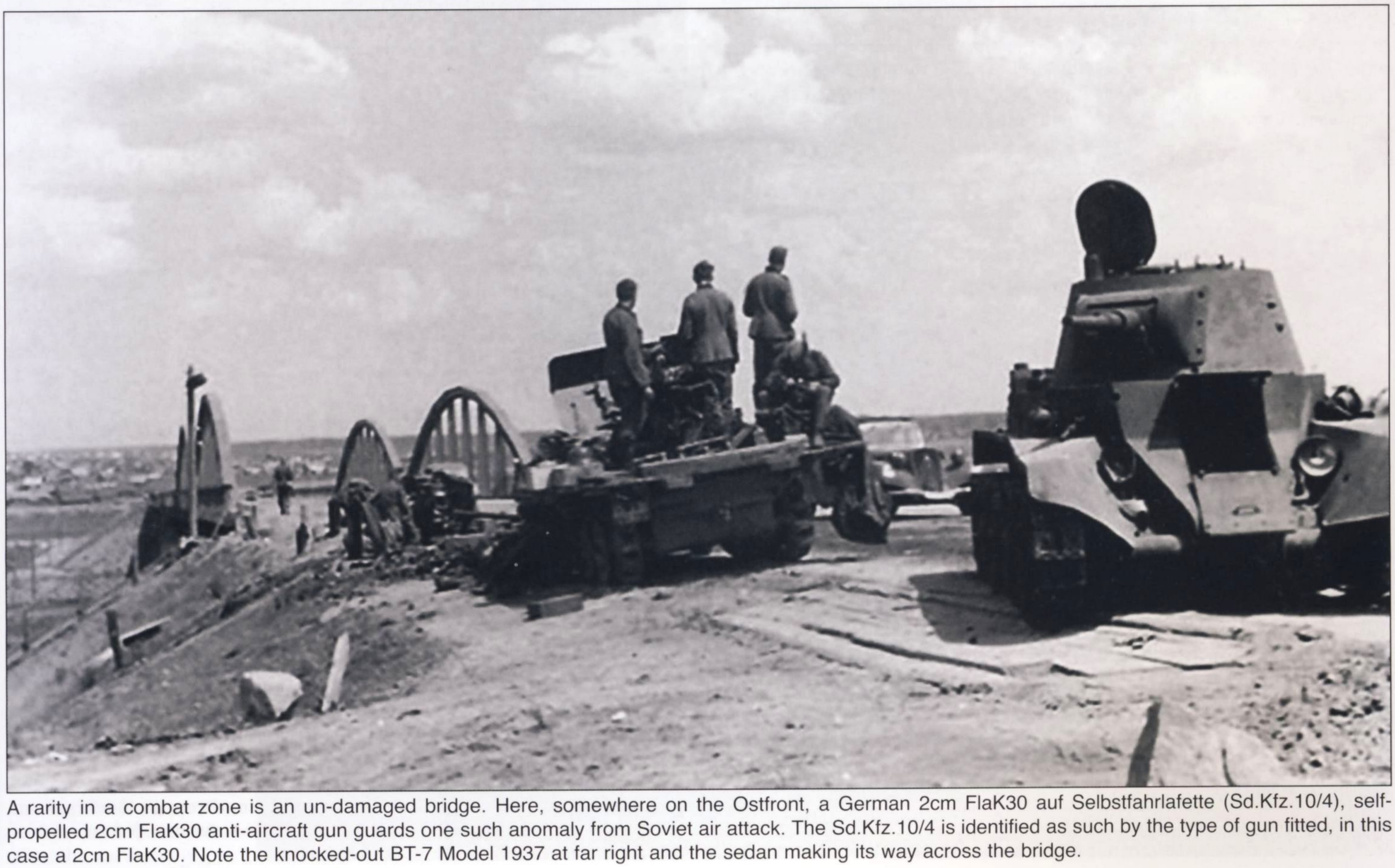
This mittlerer Schützenpanzerwagen Sd.Kfz.251/1Ausf.A conducts a training exercise prior to the 1940 campaigns in the west; note the helmet bands on the troops designating them as either "enemy" or "friendly". The open view-port flap next to the driver, and the other two, faintly-visible, flaps on the superstructure side denote the model type. Note also that the front and rear MG mounts are identical and that the forward one has no shield; this was a hallmark of very early production vehicles. The only markings are the labels barely-seen on the fender-mounted stowage lockers, and the illegible registration plate on the bow.



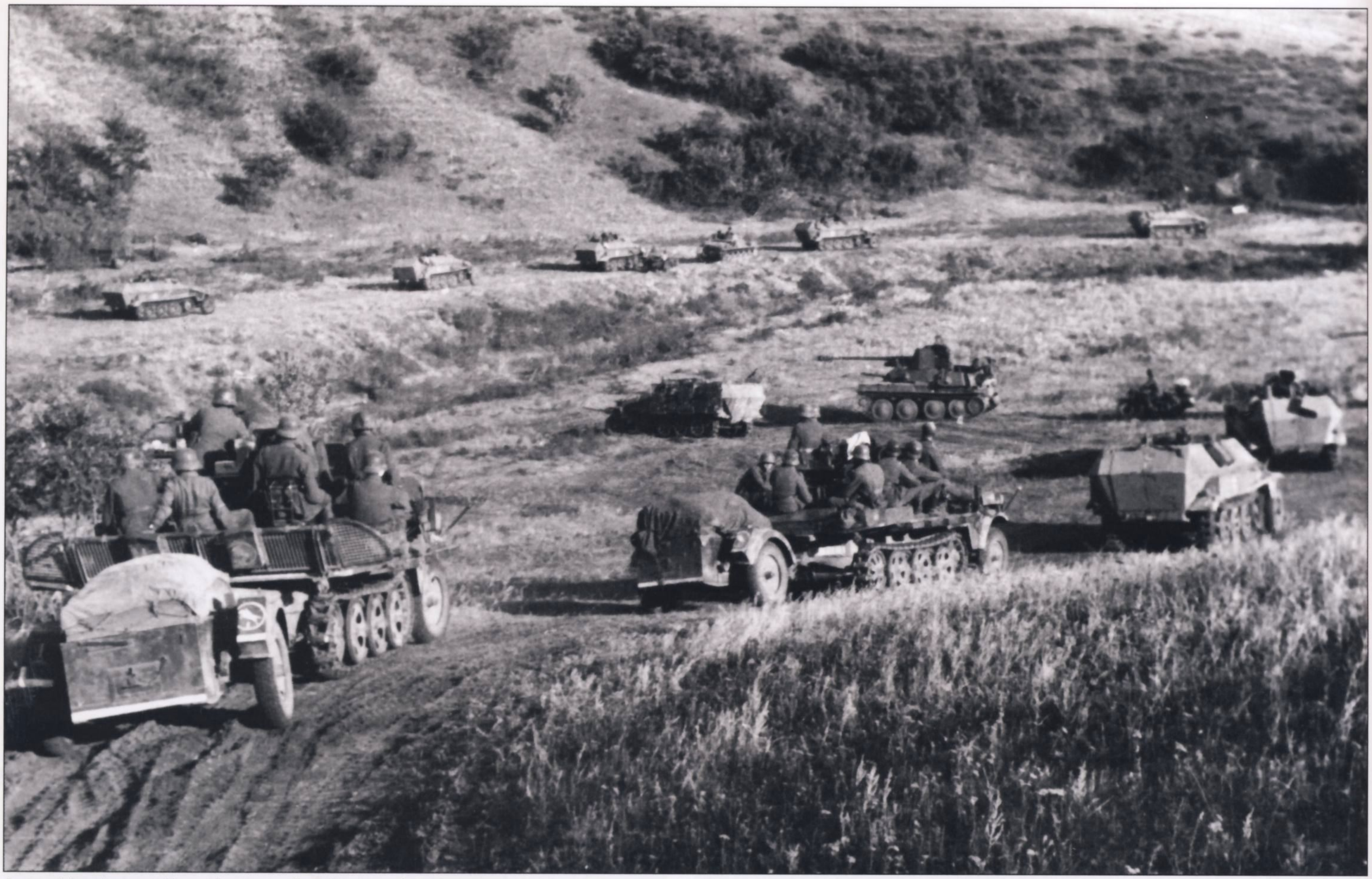
A knocked-out and abandoned mittlerer Schützenpanzerwagen Sd.Kfz.251/1 Ausf.A is being inspected by a German soldier, some time around the 1940 campaigns in the west. Note that everything that was detachable has been removed including the tracks and front wheels and that the stowage lockers are all open and empty. The m.SPW is marked as belonging to a motorized infantry company belonging to the 1.Panzer-Division; note the tactical sign and divisional insignia on the rear corner of the superstructure. It has also been marked with a white-outline Balkenkreuz on the superstructure side plate. There appear to be traces of a Balkenkreuz on the front plate between the driver's and commander's view-port flaps, which was typical for this division at this time.



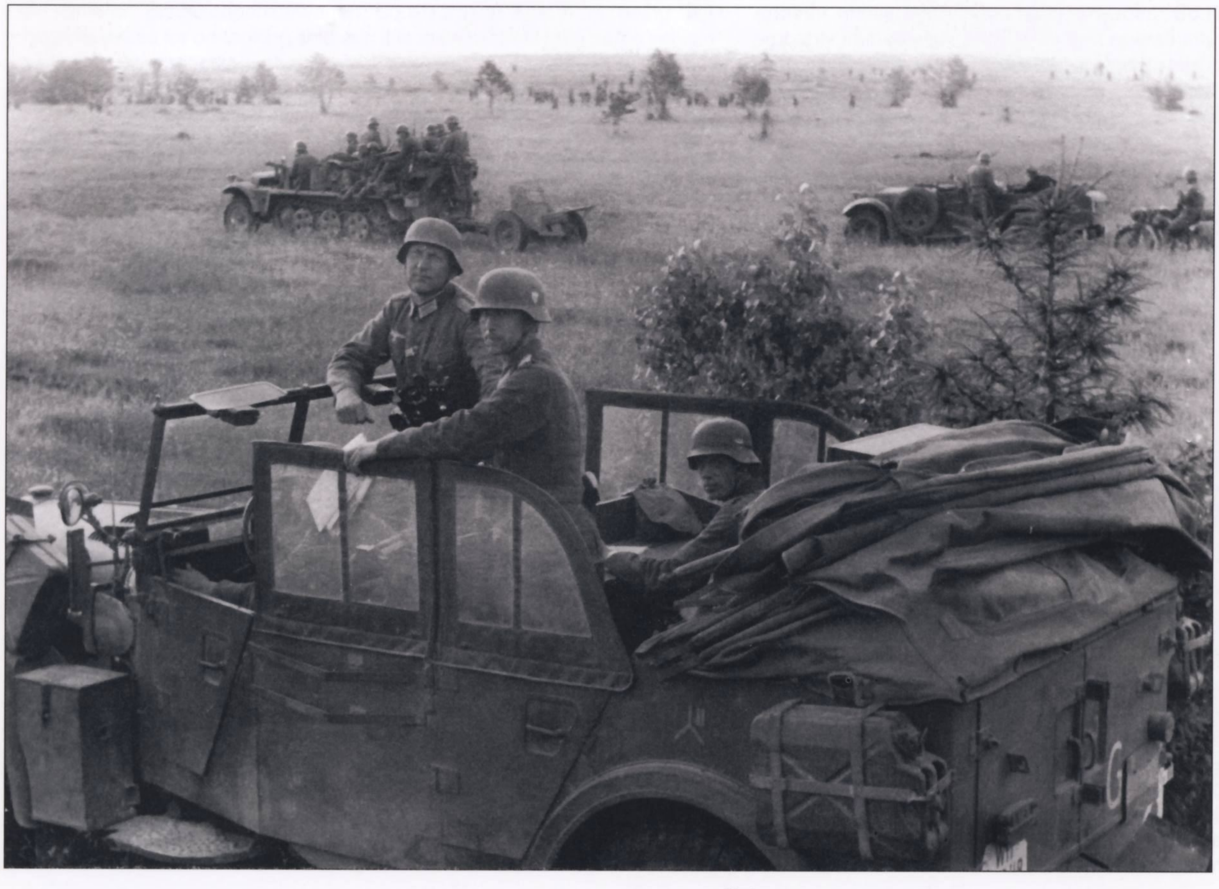
While the mittlerer Schützenpanzerwagen Sd.Kfz.251 Ausf.A and ausf.B shared the same body design, the Ausf.C, pictured here, had several major differences. Note the different track-guard and stowage locker configuration and the armored cowls over the engine air cooling inlets; unseen is the new bow plate that was a single piece instead of the two sharply angled plates previously-seen. This particular vehicle has been configured as a mittlerer Funkpanzerwagen Sd.Kfz.251/3, or armored radio carrier, as denoted by its prominent Rahmenantenne (frame antenna); there were several different possible radio combinations. Finally, note the canvas foul weather cover stretched over the open troop compartment, on specially-supplied braces.



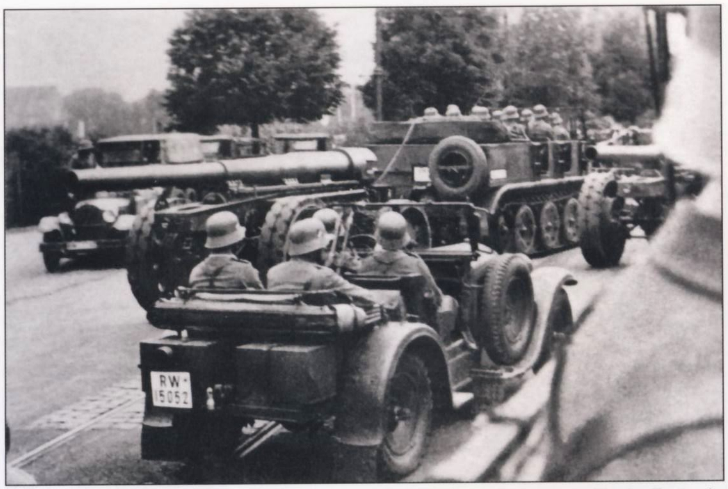
A rarity in a combat zone is an un-damaged bridge. Here, somewhere on the Ostfront, a German 2cm FlaK30 auf Selbstfahrlafette (Sd.Kfz.10/4), self-propelled 2cm FlaK30 anti-aircraft gun guards one such anomaly from Soviet air attack. The Sd.Kfz.10/4 is identified as such by the type of gun fitted, in this case a 2cm FlaK30. Note the knocked-out BT-7 Model 1937 at far right and the sedan making its way across the bridge.



A combined-arms Kampfgruppe (battle group) belonging to the 24.Panzer-Division makes its way towards its eventual annihilation at Stalingrad, probably during the summer of 1942. Note the variety of combat vehicles, including a pair of 2cm FlaK38 auf Selbstfahrlafette Sd.Kfz.10/5, self-propelled 2cm FlaK38 anti-aircraft guns, several mittlerer Schützenpanzerwagen Sd.Kfz.251 Ausf.Cs (note the positions of the track-guard mounted stowage lockers), a single leichter Zugkraftwagen 1-ton Sd.Kfz.10, and a single Panzerjäger 38 für 7.62cm PaK36 (Sd.Kfz.139), commonly referred to as a Marder III. Note that the division's insignia can be seen on several of the vehicles and trailers.

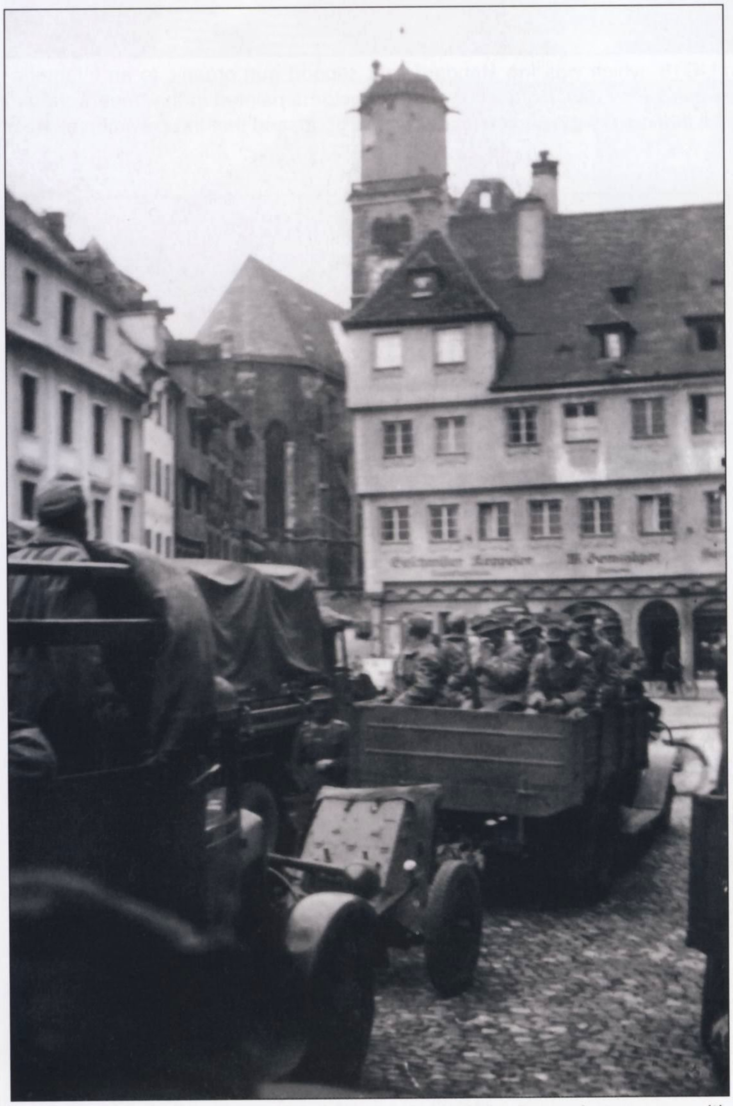


A well-dispersed Panzer-Abwehr-Batterie belonging to the 3.Panzer-Division rests in preparation to pushing onwards towards the enemy, during the campaign in the west in 1940. This battery is well-equipped with the leichter zugkraftwagen 1-ton (Sd.Kfz.10) towing its 3.7cm paK35/36; not all units had half-tracked tractors for their guns at this point in time. Note the division's insignia, an inverted "Y" with two vertical strokes, painted in yellow over the rear wheel well and the white "G" of Panzer-Gruppe Guderian on the rear of the body.

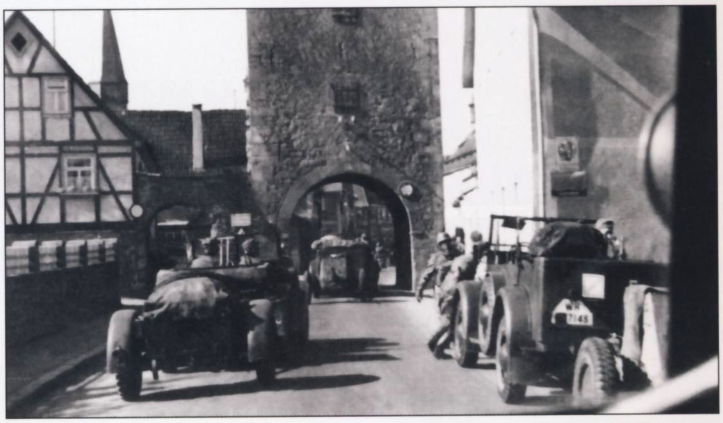


Vehicles and ordnance belonging to a pre-war schwere Artillerie-Batterie form up for a public parade, in a German city. Note that the guns (possibly 15cm K16s of World War One vintage) are being hauled by early versions of the mittlerer Zugkraftwagen 12-ton (Sd.Kfz.8) built on the DBs 7 chassis. These were first produced in the year 1934, dating this image as sometime after the Treaty of Versailles had already been repudiated by Nazi dictator Adolf Hitler. Note the vehicle registration plate on the Wanderer W11 light field car, RW-15052, which was the marking used by inter-war Reichswehr.

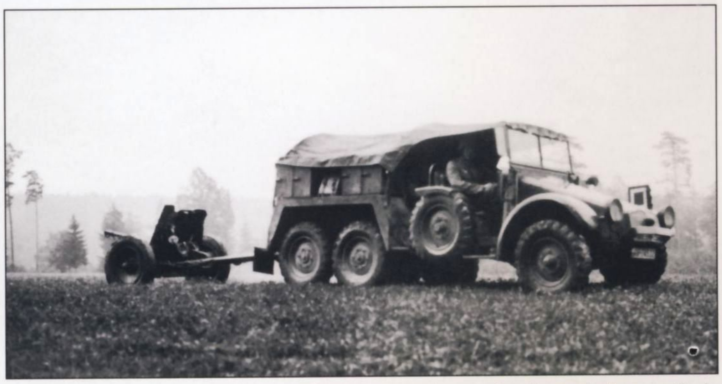
Two separate vehicle columns pause for a halt, possibly during the Polish Campaign of 1939. The column on the right consists of an Artillerie-Batterie made up of 10cm K18 guns, hauled by mittlerer Zugkraftwagen 8-ton (Sd.Kfz.7) based on the KMm 8 chassis. The truck on the left is unidentified.



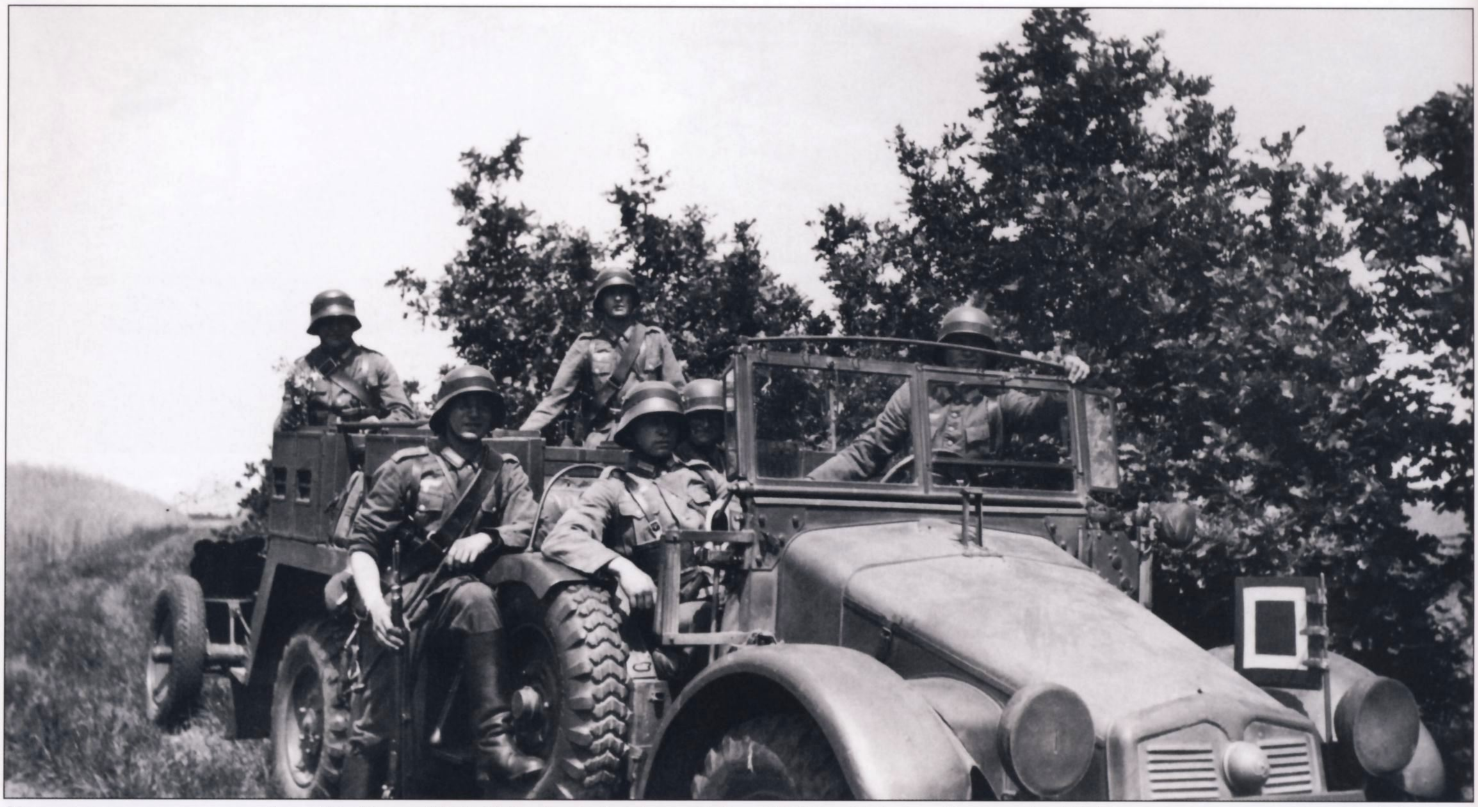
Another assortment of wheeled vehicles pauses in a city market square, with the one in the center hauling a 3.7cm PaK35/36. The men in the light truck hauling the PaK are wearing peaked caps of a style first seen in use by Gebirgsjäger (mountain infantry) and later modified and adapted for use by all of the services.



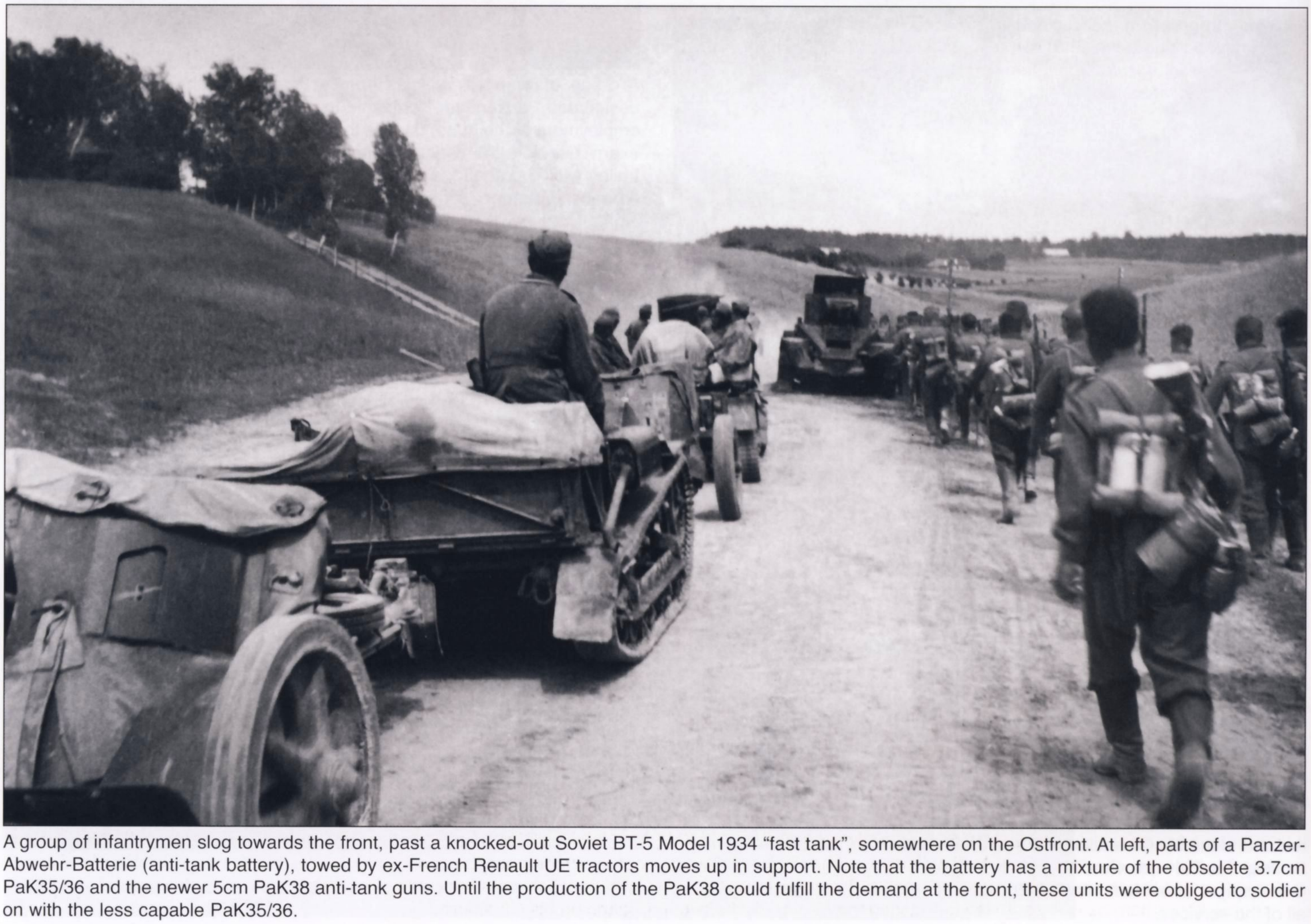
A group of wheeled vehicles from a Panzer-Abwehr-Kompanie (later re-designated Panzerjäger-Kompanie to reflect a tactical doctrine of offensive employment of the guns) passes through a gate to a German city in pre-war exercises. Note the variety of light cars in use, both of which haul a small trailer, while up ahead, a 3.7cm PaK35/36 is hauled behind another vehicle type. This image reflects Germany's early (and continued) lack of standardization of wheeled vehicle types, something which increased their logistics burden, particularly when her armed forces began operations in the far-flung reaches of the Ostfront. Note the Wehrmacht-Heer (National Defense Forces, Army) registration plate on the rear of the vehicle at right, as well as the white square with the triangle-shaped tactical marking for an anti-tank unit.



Although the German armed forces were very far from being entirely mechanized, some exceptions were made quite early on to accommodate doctrine. In this case, even Infanterie-Divisionen would have motorized Panzer-Abwehr-Truppen as organic assets. This was due to a doctrine that emphasized the forward deployment of anti-tank guns in an extremely aggressive and timely manner. This image depicts a Krupp L2H143 tractor hauling a 3.7cm paK35/36 during pre-war exercises. Note the canvas foul weather cover and the purpose-built ammunition lockers on the rear bed; the configuration was duplicated on the opposite side of this tactical vehicle.

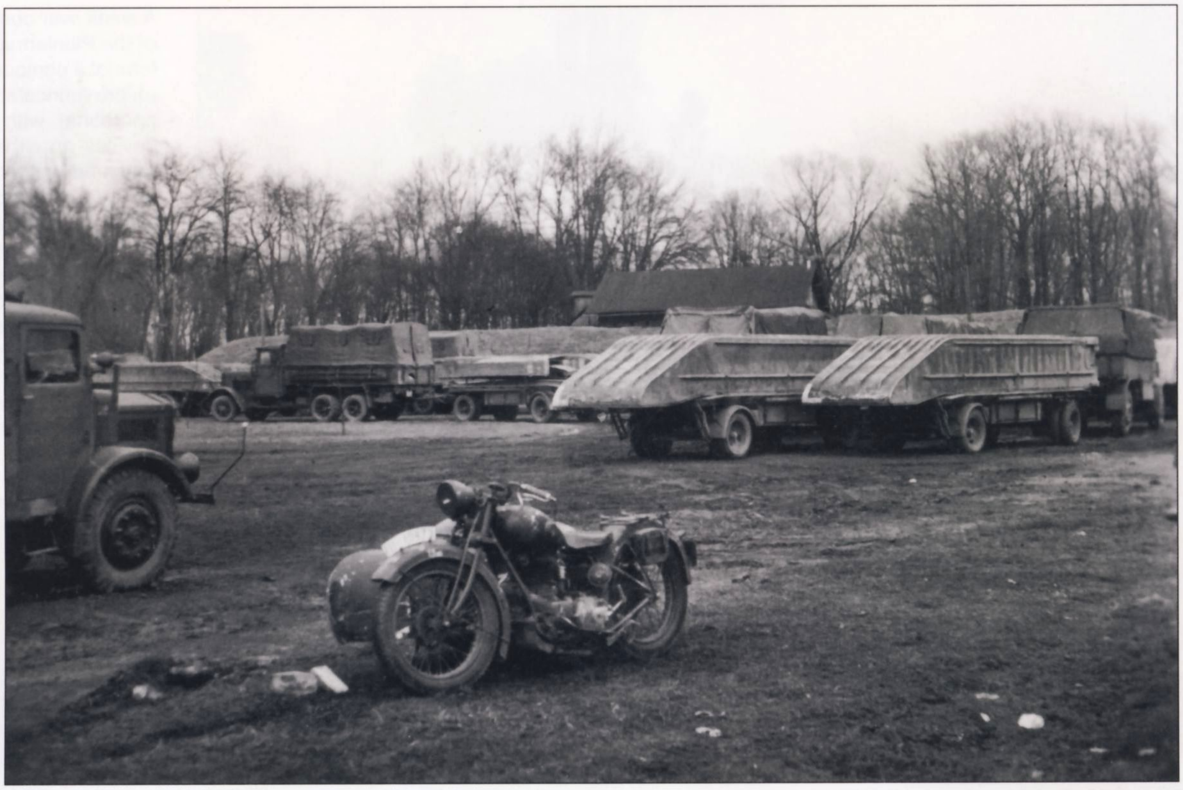


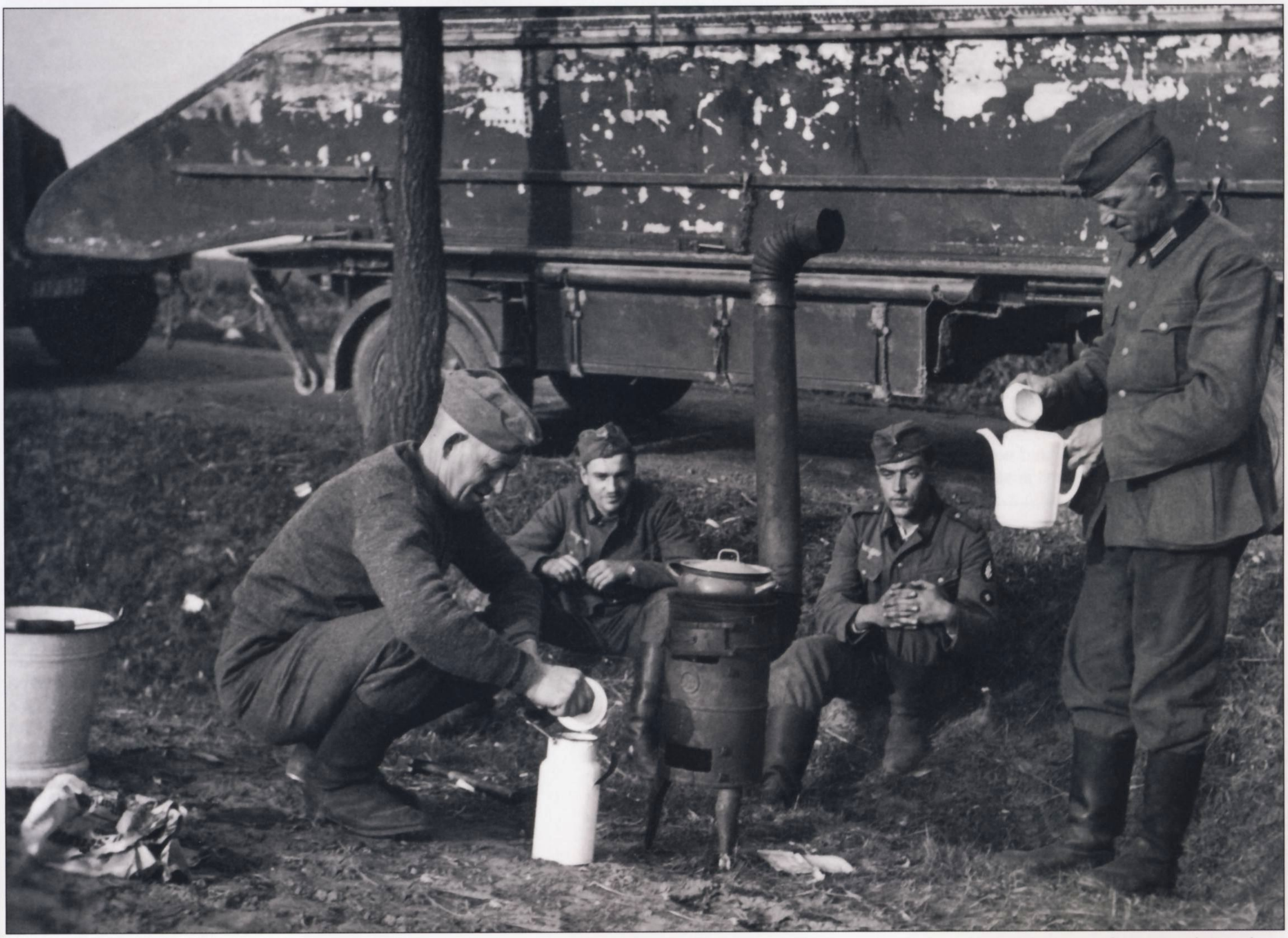
Also seen on pre-war exercises, this Krupp L2H143 tractor is hauling a 7.5cm l.IG18, which was the standard light support gun organic to an Infanterie-Regiment. This vehicle does not have the canvas foul weather cover erected on this sunny day. Note also that the tractor is painted in the "feuersicherem Buntfarbenanstrich" three-tone camouflage system, which is evident under the dust that covers the engine compartment hood, and that the crewmen all wear the Great War-vintage M1916 Stahlhelm.



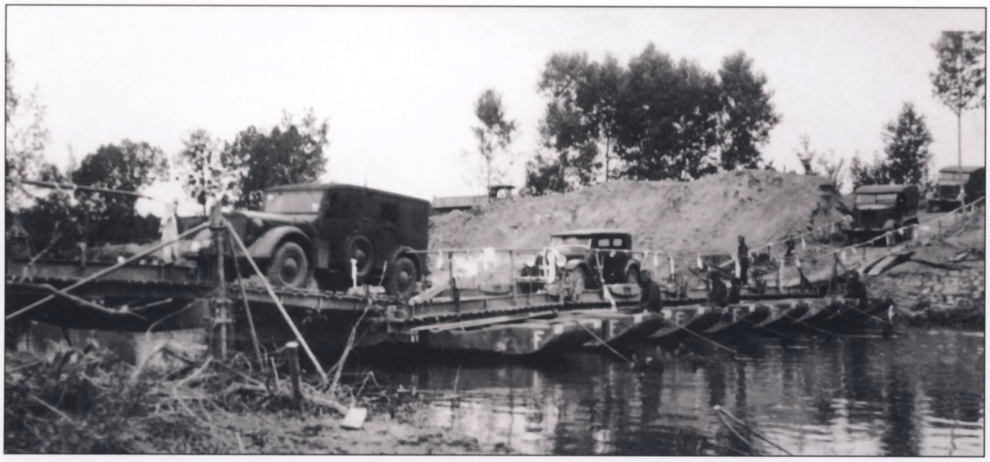
A group of infantrymen slog towards the front, past a knocked-out Soviet BT-5 Model 1934 "fast tank", somewhere on the Ostfront. At left, parts of a Panzer-Abwehr-Batterie (anti-tank battery), towed by ex-French Renault UE tractors moves up in support. Note that the battery has a mixture of the obsolete 3.7cm PaK35/36 and the newer 5cm PaK38 anti-tank guns. Until the production of the PaK38 could fulfill the demand at the front, these units were obliged to soldier on with the less capable PaK35/36.

This vehicle park affords a fine view of fully-loaded Pontonwagen Pf.11 (pontoon trailers) at right, as well as their Henschel 33D1 towing trucks. In the middle (above the motorcycle) is a Rampenwagen Pf.12 (bridging section trailer). At far left is the nose of a Mercedes-Benz model L4500A 4.5-ton tactical truck, while in the foreground sits a combination motorcycle. Note the vestiges of what is probably the pre-war three-color "feuersicherem Buntfarbenanstrich" camouflage scheme on the pontoons at right, as well as the white edge for low visibility recognition.

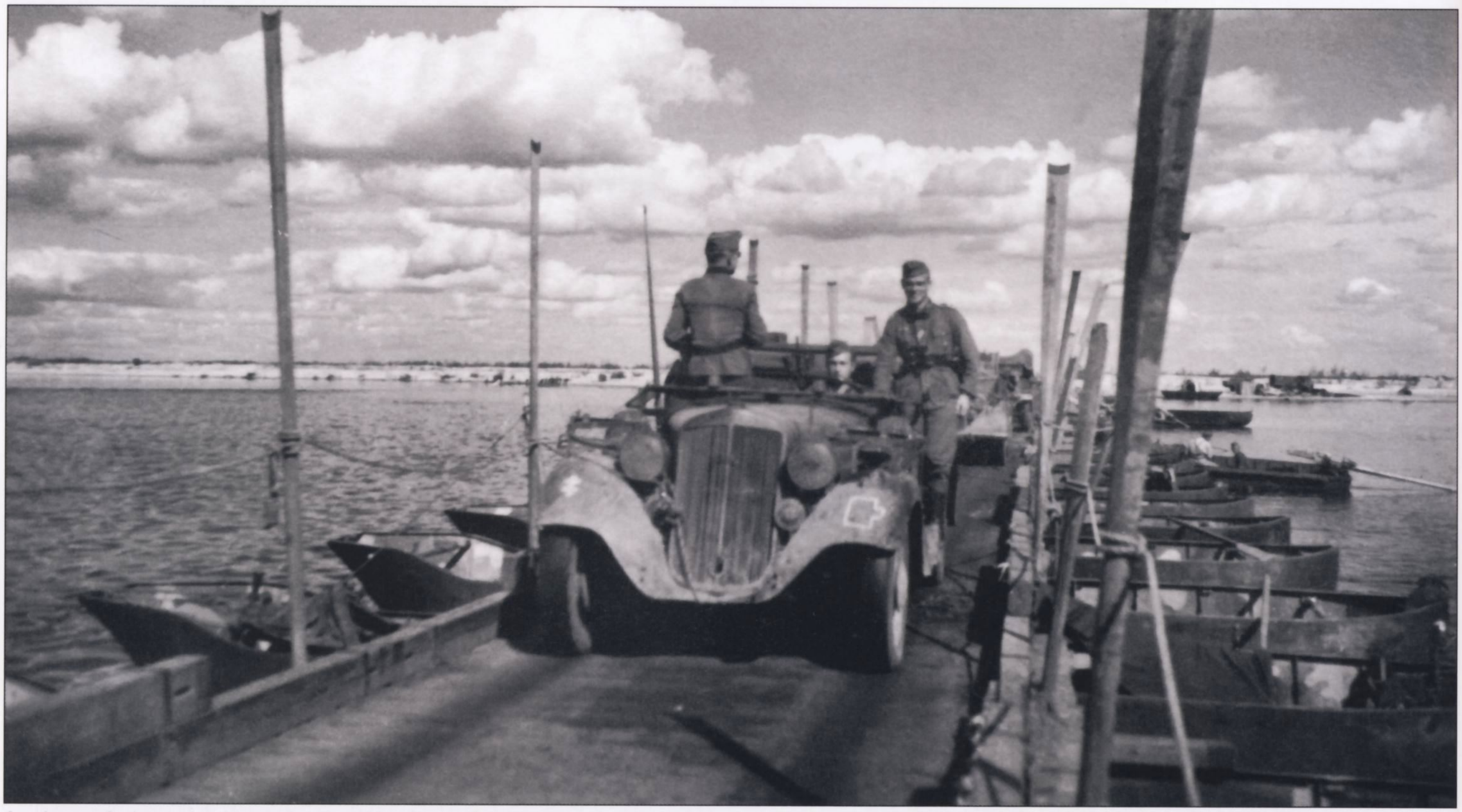




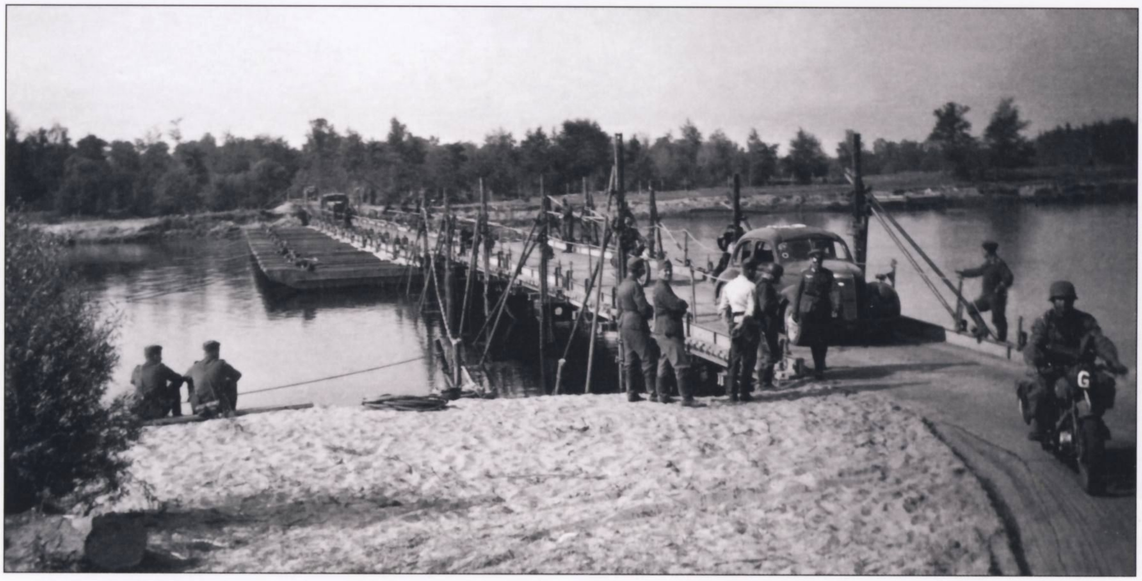
Four soldiers happily settle down for a road-side meal, with their Pf.11 Pontoneagen (pontoon trailer) as a back-drop. Note the extremely worn paint-work on the pontoon, revealing the bare aluminum underneath. The man seated to the right of the cook-stove wears the specialist insignia of a Steuermann (engineer assault boat helmsman) as well as a Marine-Hitlerjugend Kamaradschaftsführer badge on his left sleeve.



A small river obstacle has received the attention of the Pioniertruppen (combat engineers) in the form of a pontoon bridge. The bridge is made up of pre-fabricated ramp sections running over pontoons, with various types of anchoring devices on either bank. The troops have also prepared both banks for vehicles by moving earth to create proper approaches; these have been roped-off and festooned with white cloth ribbons for visibility during night-time approaches. The far bank hosts a pair of half-tracks of indeterminate type (possibly Sd.Kfz.7s), while a Horch KFz.17/1 radio car (note the antenna mount above the spare wheel) has just passed onto the near-side ramp sections. There is also a commandeered civilian vehicle passing over the pontoons in the center.

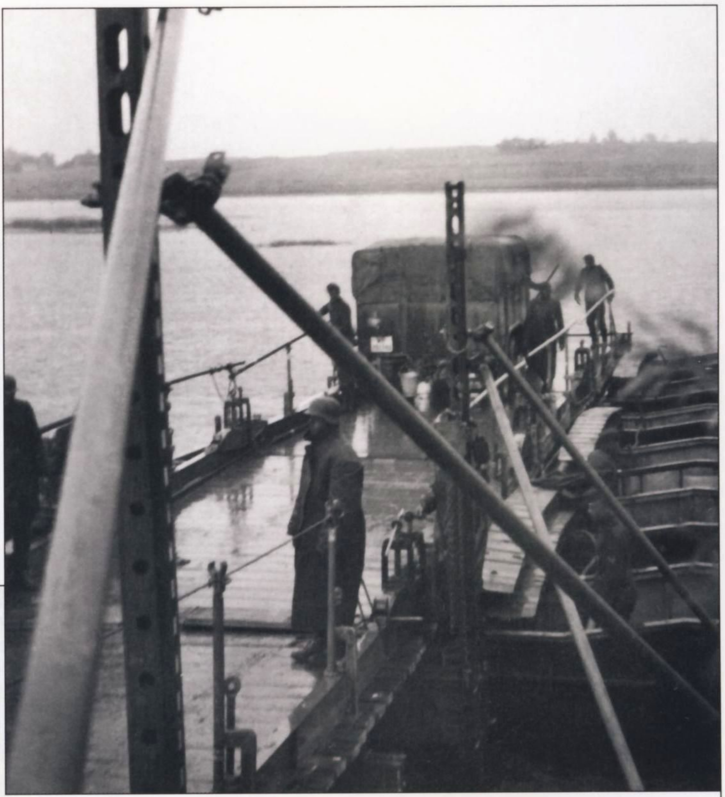


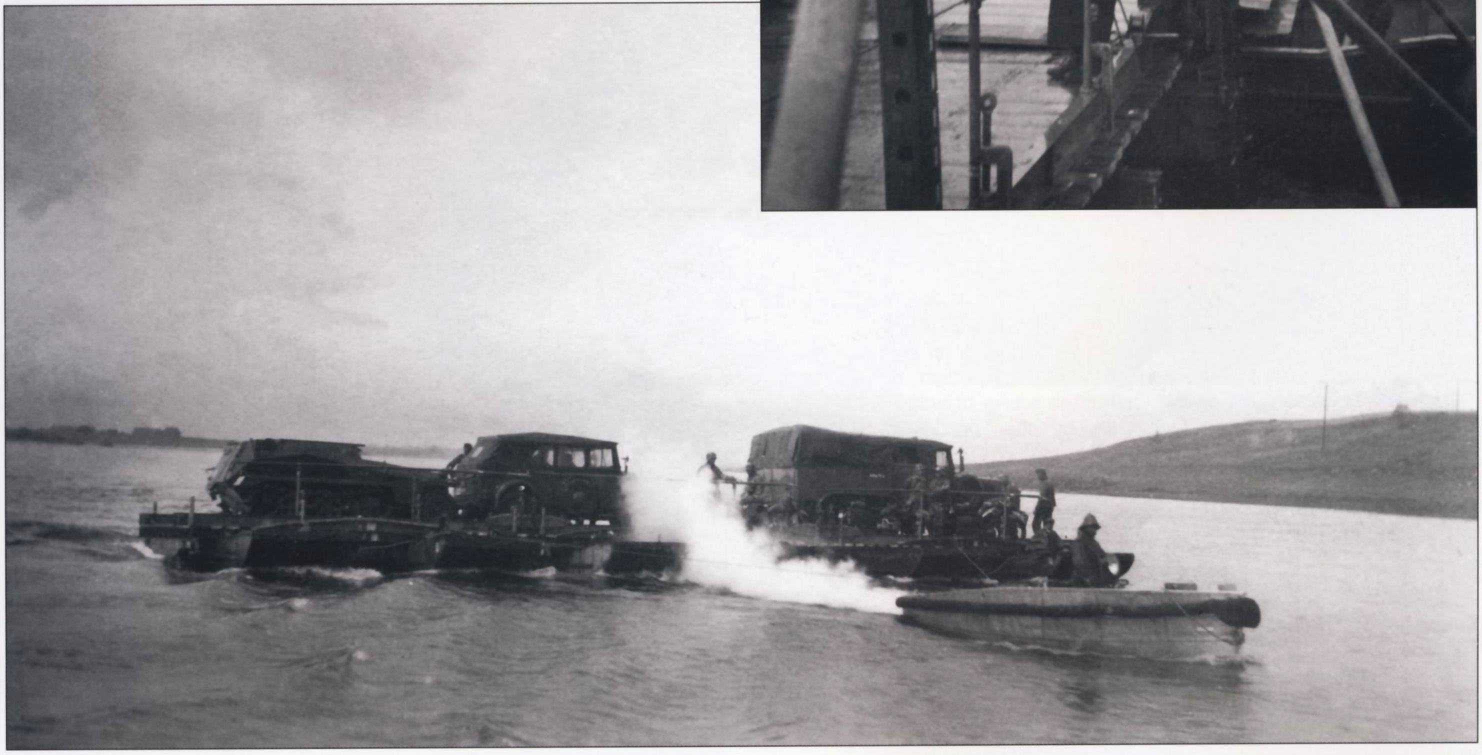
A column of wheeled vehicles, led by a Horch 830 B1, rigged as a Kfz.15 signal service car crosses a wide river on the Ostfront during Operation Barbarossa in the summer of 1941. The lead vehicle bears the double-cross insignia associated with the 79.Infanterie-Division on its starboard fender, while the tactical sign for a communications unit is seen on the port-side fender. Curiously, there is no visible registration plate.

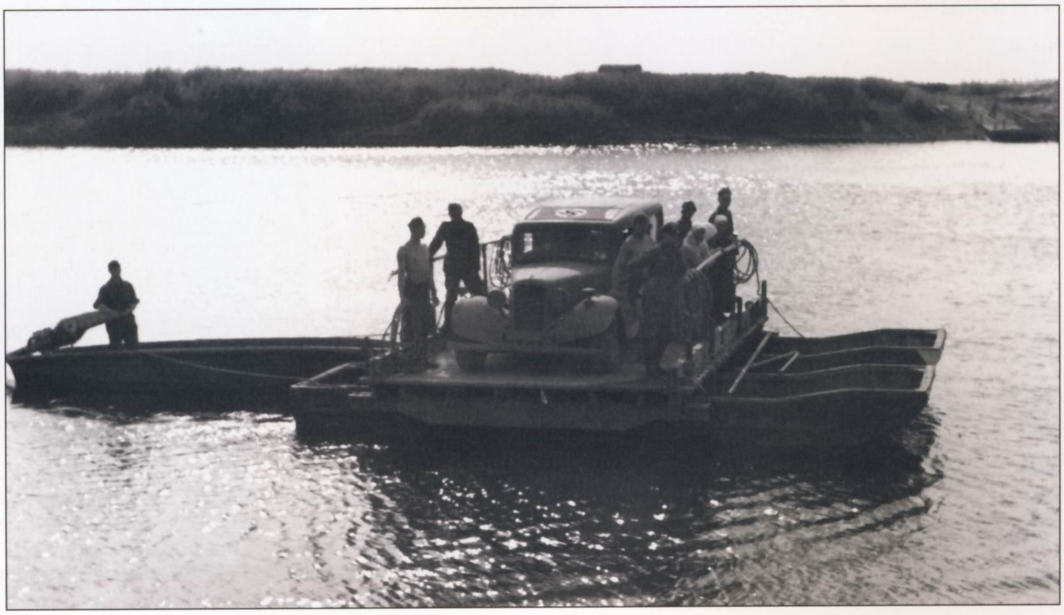


A solo motorcycle exits a pontoon bridge, followed by a commandeered civilian automobile; note the white "G", for Panzer-Gruppe Guderian on the head-lamp cover on the motorcycle. The car has an indistinguishable marking on the wind-shield glass on the passenger side and it also has a Nazi flag lashed to its roof as an aerial recognition device. Note how traffic is spaced widely apart while crossing the bridge; this was to restrict the weight on the bridge at any given moment and also, should the bridge attract enemy fire, less vehicles might be lost as a result.

These two images depict a ferry in action, probably on the Ostfront in 1941. The first image details the landing, made from pre-fabricated bridge sections, anchors and pontoons. Note the truck waiting its turn and the Übergangsschienen (engineer bridging ramps) stowed on the pontoons. The latter were usually fitted adjacent to the road-way so that troops could pass in safety while vehicles also passed. In this case, they would also be used to get the vehicles from the landing to the ferry. In the second image, a motor boat tows a ferry section containing three vehicles. The rear-most vehicle is a leichter Gepanzerte Beobachtungskraftwagen (Sd.Kfz.253). This was a light armored observation vehicle initially for use by Sturmgeschütz-Batterie commanders and can be identified by lack of a shielded MG34 mount up forward and the wood through for the Stabsantenne (rod antenna) that can be seen projecting out over the front of the driver's compartment. The wheeled vehicles are a Kfz.15 medium field car and a Magirus 3-ton truck.



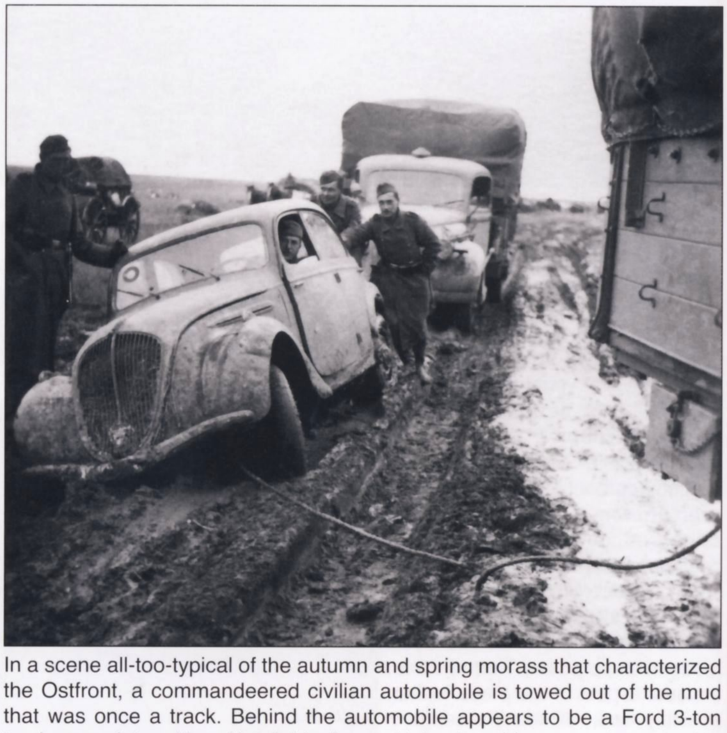




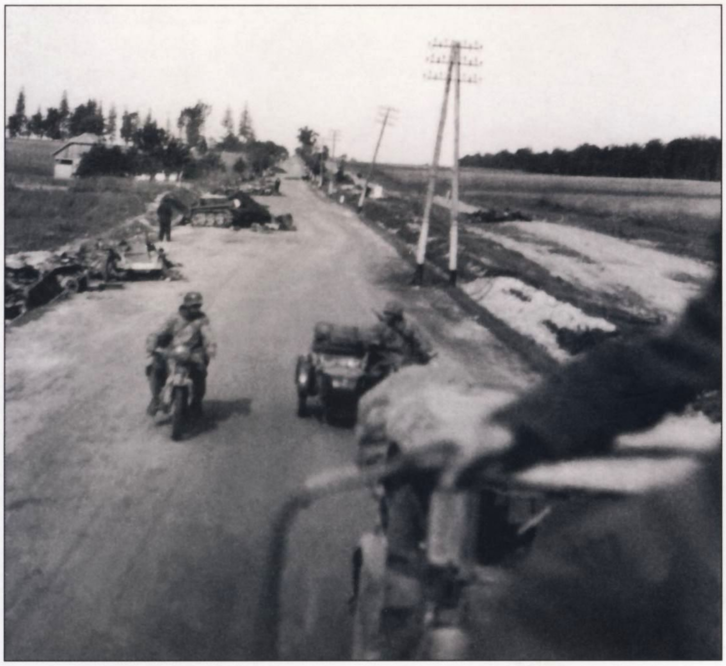
This peaceful scene depicts a ferry section approaching a landing on a wide river. Powered by a motor-boat, it is composed of standard pontoons and bridging sections and carries a medium field car. Note that the car mounts a Notek black-out driving head-lamp and a Nazi flag affixed to its roof for aerial recognition purposes. Perhaps the most unusual aspect of the photo is that one, possibly two, of the passengers are females, probably nurses. Note also the landing on the far bank and how the ferry is pointed up-stream to counteract the effects of the river's current.

This bridge crossing point on the Ostfront is a hive of activity as Pioniertruppen improve the area, while vehicles make their way across. Note how the pontoons are all anchored to the river-bed by ropes, presumably to an anchor-like device below the surface. It would appear that the crossing point is being widened judging by the activity on the right side of the bridge. Such a scene would delight enemy airmen or artillery observers as it presents a target-rich environment.

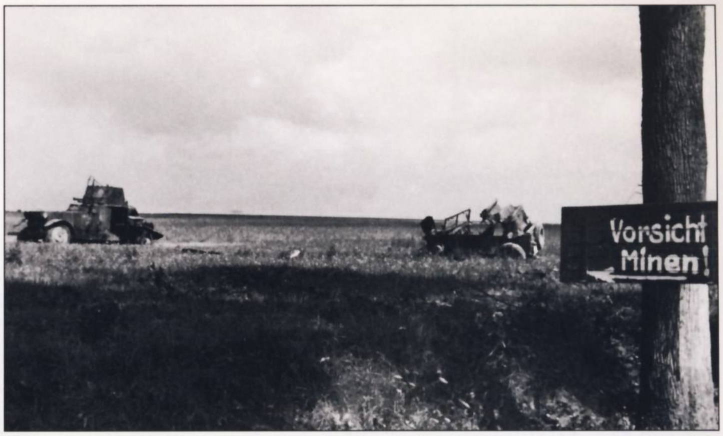
A group communications specialists huddle around their radio, a portable Tarnistor-Funk (canister radio, a man-packed device). The men and their equipment have been set-up on the load-bed of an open wheeled vehicle, and are providing an improvised mobile communications link. Note the telegraph key between the two men at rear; radios of the era could usually send a Morse-code signal further than a voice message, adding flexibility to the system.



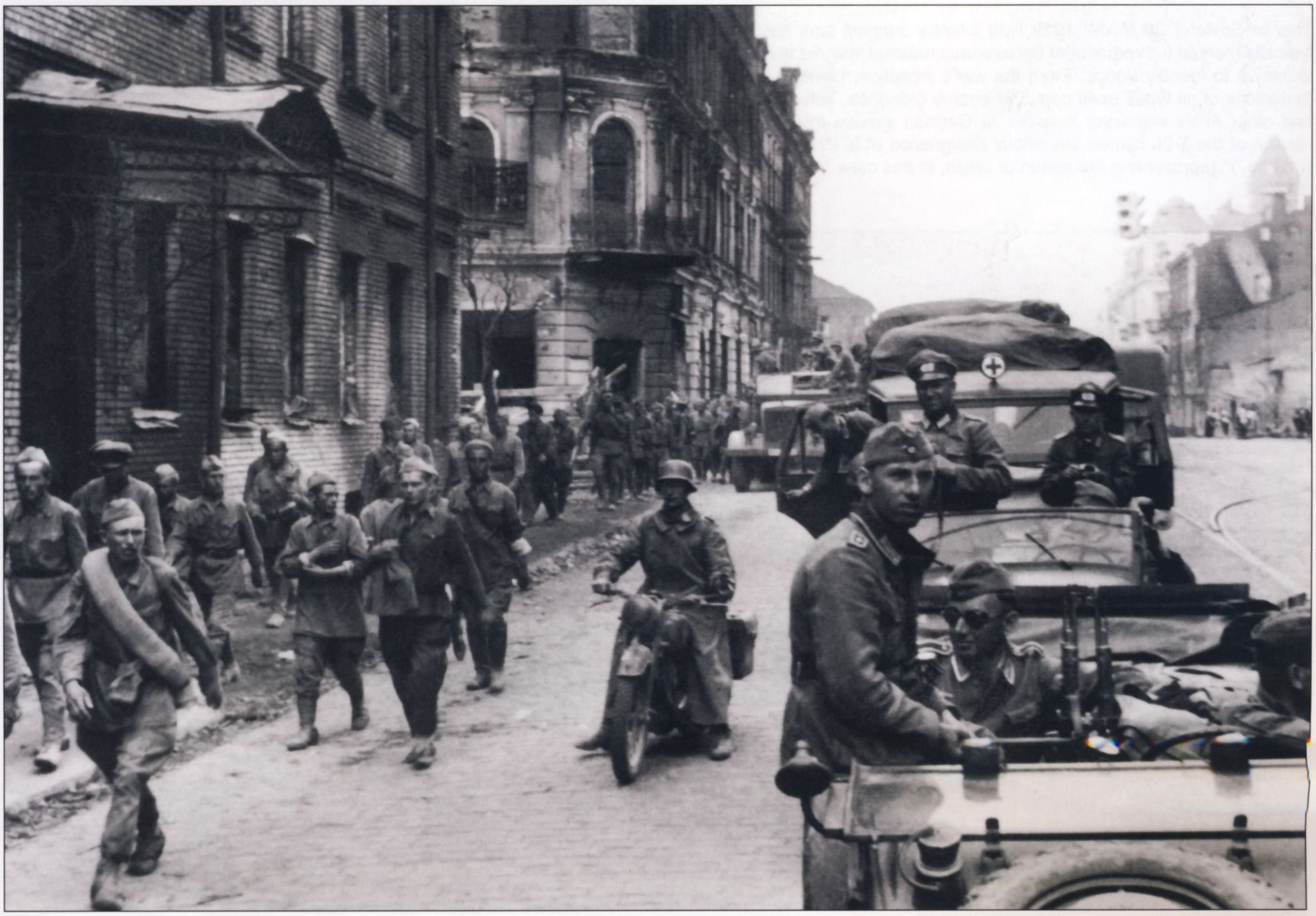
In a scene all-too-typical of the autumn and spring morass that characterized the Ostfront, a commandeered civilian automobile is towed out of the mud that was once a track. Behind the automobile appears to be a Ford 3-ton truck, complete with a Notek black-out driving head-lamp on the port-side fender. Note also the folded-down triangle sign on the truck's cab roof; when towing a trailer, this item was erected as a precautionary measure to signal on-coming vehicles.



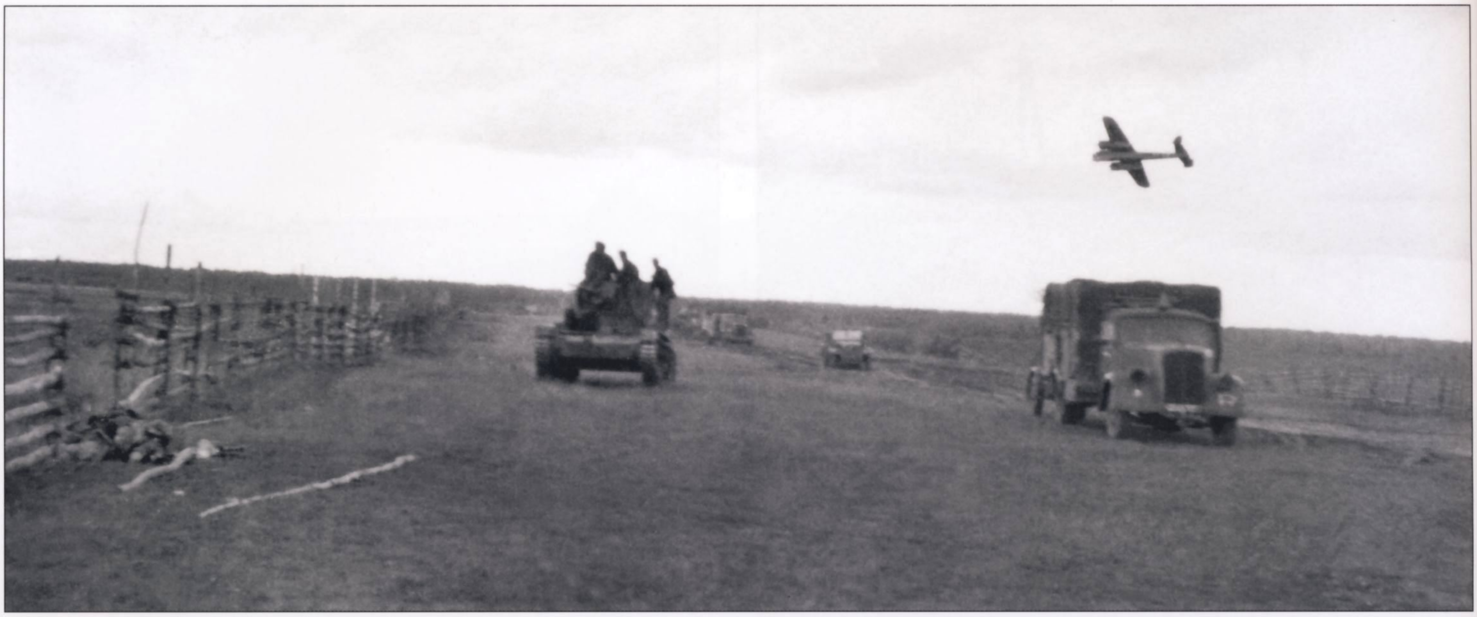
The wreckage of battle litters the side of a road somewhere in the west during the 1940 campaigns. At center left, are the remains of a German half-track, probably a leichter Zugkraftwagen 1-ton (Sd.Kfz.10), among other crushed motor vehicles. Moving towards the camera are a solo motorcycle and a combination motorcycle with a side-car, both of indeterminate types.



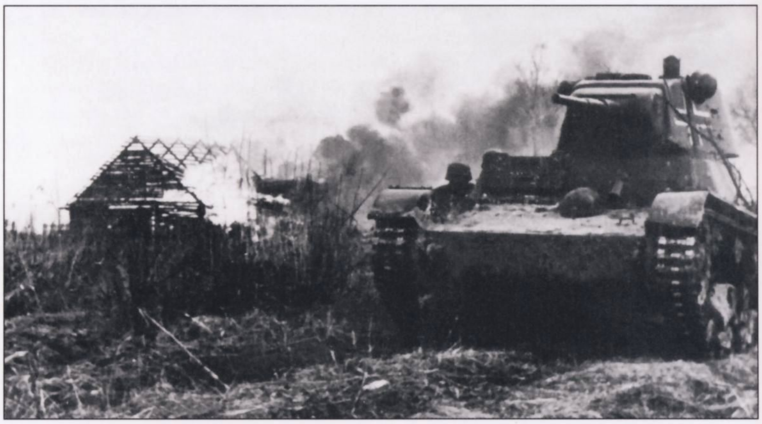
Quite after the fact, German Pioniertruppen have erected a sign warning that the field in the background has been mined. Note what appears to be a French armored car of indeterminate type at left and the medium field car at right.



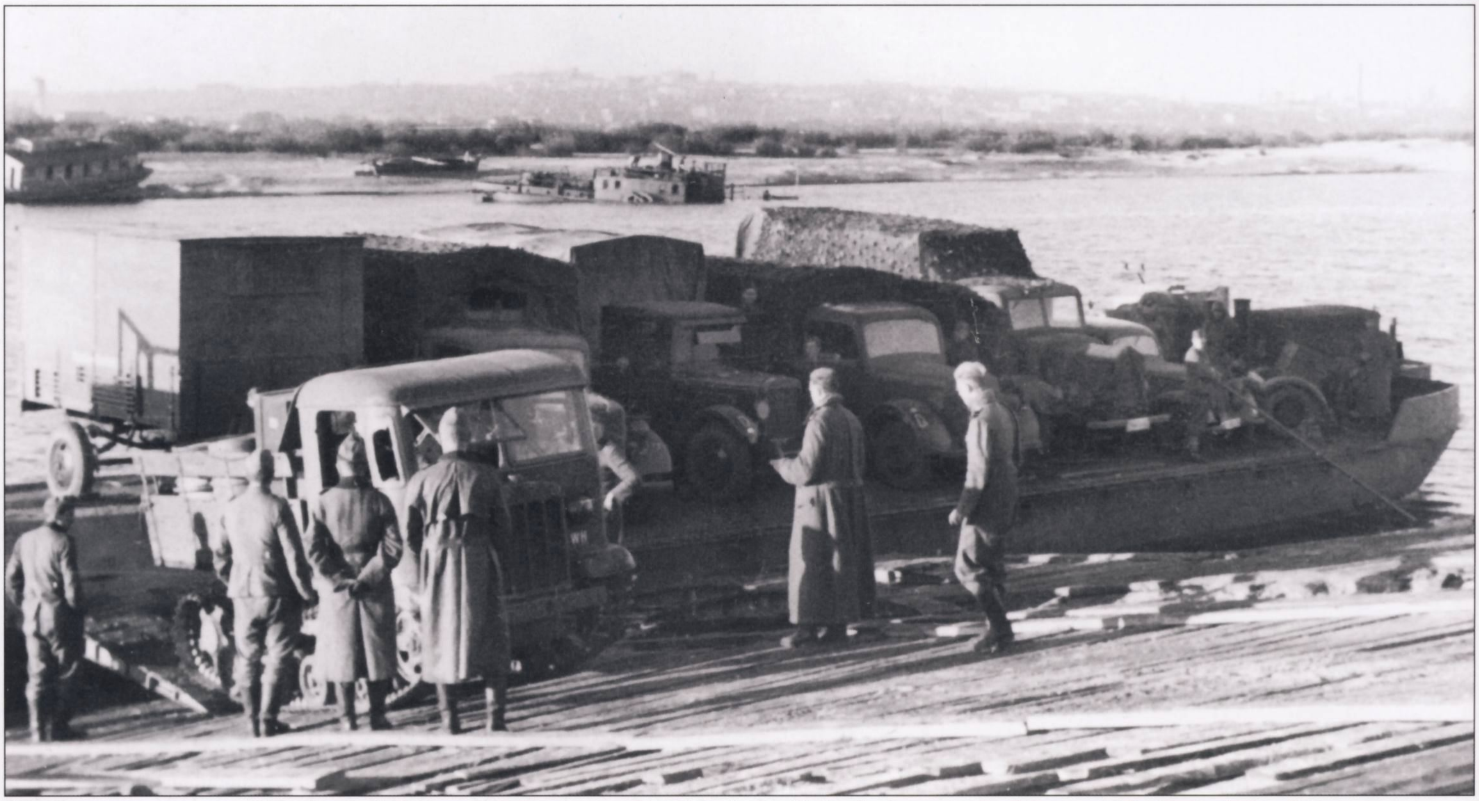
Soviet prisoners of war shuffle past a motorized German column, which includes an ambulance; note the small Red Cross marking on the third vehicle. Once again the lack of standardization is apparent as the column includes a Volkswagen Typ82 light field car, an unidentified vehicle type and the ambulance, also of an unidentified type. Note the fuel filler cap and clips that hold the folded wind-screen in place on the Volkswagen, as well as the small wiper motors on the inner side of the glass.



While a Dornier twin engine medium bomber peals away, German troops take a captured Soviet T-26 light infantry support tank for a joy ride. This tank, when used in German service was given an official designation, leichter Panzerkampfwagen 737 through 740(r) depending on type, which, however, appears to have been rarely used. At right, an Opel Blitz 3-ton truck, hauling a trailer leads a widely-dispersed group of vehicles towards their next designation.

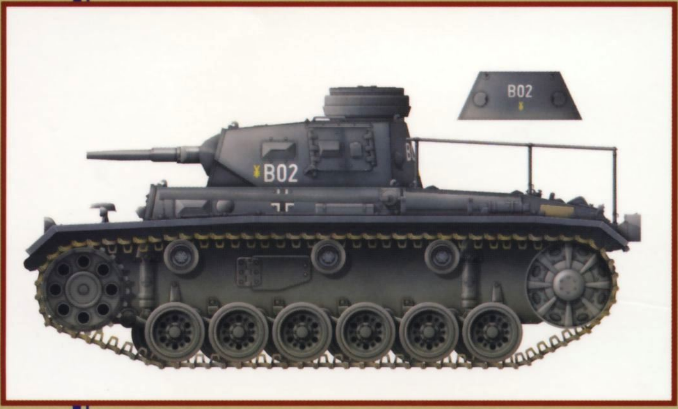


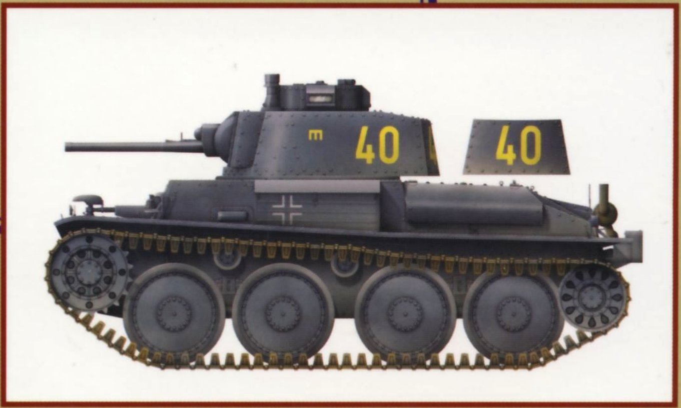
This ex-Soviet T-26 Model 1939 light infantry support tank has been typically-marked with prominent Balkenkreuz national insignia in order to identify it to friendly troops. From the war's inception, German military formations of all types used captured enemy ordnance, vehicles, tanks and other AFVs whenever feasible. In German service this particular version of the T-26 carried the official designation of le.Pz.Kpfw.740(r), with the "r" representing the nation of origin, in this case "russische", or Russian.



A ferry carrying several vehicles has pulled up against the prepared landing site and is beginning to un-load its cargo. The first vehicle off the ramp is an ex-Soviet STZ-5 artillery tractor in German service. Note the white "WH" (Wehrmacht Heer) legend painted on the nose and several 200-liter fuel drums in its load-bed. The remainder of the wheeled vehicles on the ferry again demonstrate the diversity of types on hand

AU PETIT RAPIDE
TABACS BUVETTE
A LA CLOCHE D'OR





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